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# The BULLETIN

of the

# VANCOUVER MEDICAL ASSOCIATION

Vol. XV. JANUARY, 1939 No. 4

*With Which Is Incorporated*
*Transactions of the*

## *Victoria Medical Society*

*the*

## *Vancouver General Hospital*

*and*

## *St. Paul's Hospital*

***In This Issue:***

CONGENITAL DISLOCATION OF THE HIP

TWO CASES OF CRETINISM

ROUND TABLE DISCUSSION ON PREMATURITY

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THE VANCOUVER MEDICAL ASSOCIATION

# BULLETIN

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

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Vol. XV. JANUARY, 1939 No. 4

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[1]Wilder, R. M.: General Discussion: Proc. Staff Meet., Mayo Clinic, 9:606 (Oct. 3), 1934.

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# VANCOUVER HEALTH DEPARTMENT

STATISTICS—NOVEMBER, 1938.

| | |
|---|---|
| Total Population—estimated | 259,987 |
| Japanese Population—estimated | 8,685 |
| Chinese Population—estimated | 7,808 |
| Hindu Population—estimated | 335 |

| | Number | Rate per 1,000 Population |
|---|---|---|
| Total deaths | 242 | 11.3 |
| Japanese deaths | 4 | 5.6 |
| Chinese deaths | 8 | 12.5 |
| Deaths—residents only | 212 | 9.9 |
| BIRTH REGISTRATIONS: | | |
| Male, 172; Female, 168 | 340 | 15.9 |

| INFANTILE MORTALITY: | Nov., 1938 | Nov., 1937 |
|---|---|---|
| Deaths under one year of age | 15 | 3 |
| Death rate—per 1,000 births | 44.1 | 8.4 |
| Stillbirths (not included in above) | 3 | 12 |

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

| | October, 1938 | | November, 1938 | | December 1st to 15th, 1938 | |
|---|---|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths |
| Scarlet Fever | 22 | 0 | 40 | 0 | 29 | 0 |
| Diphtheria | 0 | 0 | 0 | 0 | 0 | 0 |
| Chicken Pox | 27 | 0 | 73 | 0 | 76 | 0 |
| Measles | 2 | 0 | 4 | 0 | 1 | 0 |
| Rubella | 3 | 0 | 5 | 0 | 5 | 0 |
| Mumps | 6 | 0 | 4 | 0 | 5 | 0 |
| Whooping Cough | 19 | 0 | 21 | 0 | 21 | 0 |
| Typhoid Fever | 3 | 0 | 1 | 0 | 1 | 0 |
| Undulant Fever | 0 | 0 | 2 | 0 | 0 | 0 |
| Poliomyelitis | 0 | 0 | 0 | 0 | 0 | 0 |
| Tuberculosis | 20 | 15 | 41 | 9 | 23 | -- |
| Erysipelas | 4 | 0 | 1 | 0 | 3 | 0 |
| Ep. Cerebrospinal Meningitis | 0 | 0 | 0 | 0 | 0 | 0 |

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

| | Burnaby | West Vancr. | Richmond | North Vancr. | Vancr. Clinic | Hospitals, Private Drs. | Totals |
|---|---|---|---|---|---|---|---|
| Syphilis | 0 | 0 | 0 | 0 | 60 | 30 | 90 |
| Gonorrhœa | 0 | 0 | 3 | 1 | 82 | 28 | 114 |


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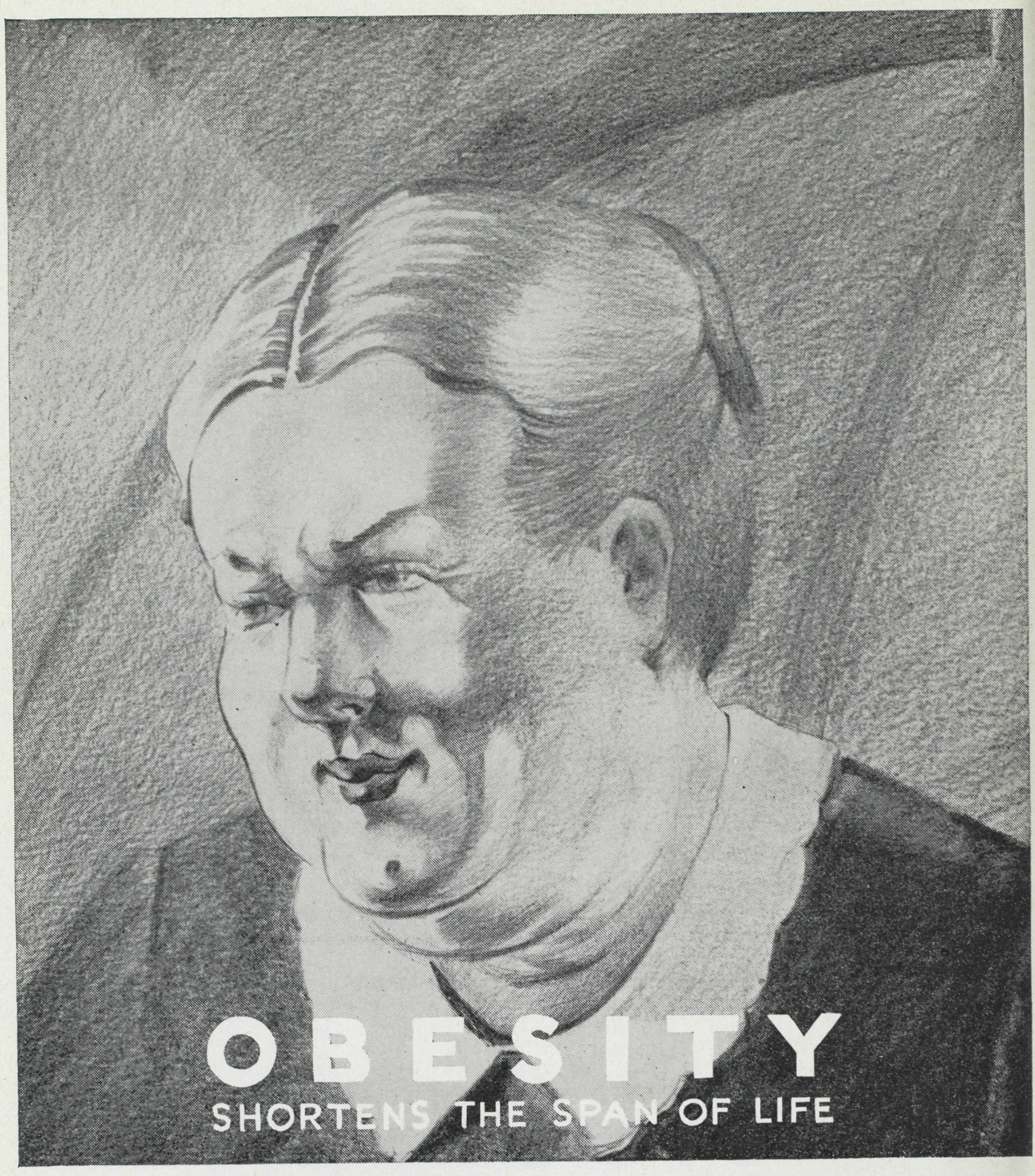


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GENERAL MEETINGS will be held on the first Tuesday of the month at 8 p.m.

CLINICAL MEETINGS will be held on the third Tuesday of the month at 8 p.m.

Place of meeting will appear on the Agenda.
General meetings will conform to the following order:

8 P.M.—Business as per Agenda.
9 P.M.—Papers of the evening.

## Programme of the 41st Annual Session (Winter Session)

1939

January 3rd—GENERAL MEETING.
DR. G. E. KIDD: "Points in Physical Anthropology."

January 17th—CLINICAL MEETING.

February 7th—GENERAL MEETING.
DR. MURRAY McC. BAIRD: "Some Remarks about 'RHEUMATISM'."

February 21st—CLINICAL MEETING.

March 7th—OSLER LECTURE: DR. J. H. MACDERMOT.

March 21st—CLINICAL MEETING.

April 4th—GENERAL MEETING.
DR. H. A. DESBRISAY: Subject to be announced later.

April 18th—CLINICAL MEETING.

April 25th—ANNUAL MEETING.


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# EDITOR'S PAGE

To all its readers the BULLETIN extends its most sincere wishes for a Merry Christmas and Happy New Year. At the time of writing, Christmas is still in the future, and we are uncomfortably conscious, with Charlie McCarthy, that there are only 6½ shopping days left—by the time this reaches the aforesaid readers, Christmas will be a thing of the past—yet not so remote but that the atmosphere of Christmas will be still a fragrance in the air, and the echo of its happy voice will still linger. And a New Year will have been born, and may it be a year of growth and happiness, and of peace. Surely soon this present madness of men will find surcease, and reason and commonsense and the Golden Rule will again govern men's thoughts and actions. It is a good world we live in, if we are only allowed to live in it: and with all our hearts we wish to everyone a Happy and Prosperous New Year.

* * * *

Through the courtesy of Dr. H. M. Cassidy, Director of Social Welfare, we received a very interesting paper read before the National Conference on Social Work held at Seattle in July, 1938.

The paper, read by Martha Chickering, Director of University of California Social Service Curriculum, is entitled "What a Visitor in a Public Agency Should Know."

This apparently limitless question she delimits by explaining that she is referring to agencies which are created to give mass public relief. She very wisely begins by laying down as a primary consideration the necessity for every social worker to learn *the legal limitations* of a public agency. The social worker sees need, urgent and clamorous—and is apt to try and stretch the powers he or she has beyond the legal limits. This, while doing credit to the heart of the worker, is wrong, useless and even dangerous—and does not eventually do any good to the recipient of relief.

Next, the visitor must know *how* to help people. For relief and help does not merely imply *material* relief—food, clothing and so on; and here Miss Chickering does a real service by reminding us that the beneficiary of relief is not an object of machine-like, efficient and Prussianized charity. He is *himself important*: and his personality, his individuality, his self-respect, his capacity for further usefulness as a self-reliant citizen *must* at all costs be fostered and preserved, if our notions of a *democracy* as the ideal form of government have any merit at all.

"One of the first measuring rods . . . is a measure of the agency's effect on the individual human beings dependent upon it."

This involves understanding of psychology, sympathy, knowledge of behaviour problems, reverence for the personality of others, and above all "skill in dealing with people."

For this, of course, a certain inherent capacity is a primary essential. But *training* is also an important desideratum. A public agency must use the personal material at its command, and however good this is, it needs training, discipline and direction. Team-work is a *sine quâ non*.

Again, the visitor must, above all, be practically competent and efficient. Accurate and fluent command of language, both oral and written, ability to write clearly and concisely and accurately, and express oneself lucidly, are of the greatest value. Minor details, such as ability to prepare budgets, to recognise medical problems, to understand and appreciate local and topical problems, can only be made available by training. In fact, we see that the social worker must acquire the professional outlook on her work.

"The visitor is a person of enormous importance. Through her must flow all the best the agency has to give, because she is frequently the only direct contact the agency has with the needy citizen."

Adequate early education, including university training, recognition of the professional aspect of the work, opportunities for promotion, inter-organization training and discipline, are all called for. Only so can the visitor's work be adequately objective and

creative—only so can we avoid allowing mass relief to become a merely degenerative process, defeatist and sclerosing; and only so can we take advantage of our misfortunes and turn them to a positive gain—that "somehow good may be the final goal of ill."

Miss Chickering's paper is a timely one, and is well worthy of a careful study. It illustrates how essential clear thinking and objective thinking are, and how only by the use of these, and the acquirement of mental discipline and order, can we avoid waste of energy and time and material, if not actual damage to the social structure. The trained social worker of today is no longer the Mrs. Jellyby of the old days, voluble and nosey and emotional, often a busybody and a nuisance, governed chiefly by sentimentalism and a vague yearning to do good, which, being interpreted, meant to mind someone else's business. She is a professional—detached, impersonal, efficient and cool, yet fully motivated by a sincere consciousness of social need and her duty in connection therewith. She deals with the problems of this objectively, yet always as an individual, personal problem. The doctor in active practice at first resented her coming, if the truth be told, and at first he had perhaps some ground for his objections. Some of the earlier workers did rather tread on his toes and interfere with his work—often exceeding, as Miss Chickering warns us is a possible danger, her legal and legitimate powers and duties, and allowing personal bias and opinion to sway her. But today the administration which governs these workers controls this, and the work of the visitor of the public agency, whether relief or school nurse or what not, is one of the great and necessary factors for good in our social economy: to the doctor she can be of untold help and service, and to the beneficiary of relief or other form of social service activity she is "a guide, a counsellor and friend."

* * * *

We tender herewith our congratulations to Dr. Lyle Telford, our newly elected Mayor of Vancouver. Dr. Telford conducted his campaign for election in a model manner. He studiously avoided personalities and scurrility—a thing that cannot be said of all the candidates in this contest; he made few promises, avoided sectionalism, and spent less than three hundred dollars on the whole affair. His election would seem to be far more than a party matter; or if he owes his success to members of the C.C.F. alone, this party must be far stronger and more numerous than even its fondest supporters have imagined.

An old writer advises the man who is in dire need of aid, from illness and disease, to do all he can to help himself by cleaning house personally, putting his affairs in order, and so on. "Then give way to the physician," he goes on to say, "for there is a time when in their hands is the very issue for good. . . . He that has sinned before his Maker, let him fall into the hands of the physician."

Evidently Vancouver in its need and rather dire straits has taken the advice of this old sage. We wish Dr. Telford, its new medical attendant, all the luck in the world.

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## NEWS AND NOTES

The BULLETIN would like at this time to call the attention of its readers, especially those living in Vancouver, to the fact that Mrs. Agnew, the widow of the late Dr. F. V. Agnew, who practised for some years at Smithers, B. C., is the proprietor and manager of a book store and lending library, known as the Bridge Library, situated on Burrard Street, formerly Cedar Street, between Eighth Ave. and Broadway. Mrs. Agnew is well equipped to supply any book that any person may need, and her Lending Library is well stocked, and contains the latest books in every line. She has not long started this venture, and the BULLETIN is very happy indeed to take this opportunity of bringing it to the attention of medical men, who, we are sure, would be glad to take advantage of her services, with mutual profit and satisfaction.

* * * *

Dr. H. H. MacIntosh is enjoying a well-earned vacation, and will be away for about a month.

Dr. Colin Graham has returned from a vacation spent in Southern California.

* * * *

Dr. E. J. Curtis is spending a month's vacation in the South.

* * * *

Dr. R. J. Nodwell, who has been stationed at the Jericho Royal Air Force Station, has recently been transferred to the Royal Canadian Naval Station at Esquimalt. After a vacation spent in Eastern Canada he will join a destroyer.

* * * *

We have learned with regret that Dr. J. Mair Robertson is confined to St. Paul's Hospital and will not be able to spend Christmas at his home. We wish him a speedy recovery in the New Year.

* * * *

Dr. D. B. Collison has recently opened offices in the Medical-Dental Building. He will confine his practice to Obstetrics and Gynæcology. Dr. Collison, who is a native of Red Deer, Alberta, graduated from McGill University in 1933, and has since done one year's post-graduate work at Montreal General Hospital and four years at the University of Rochester, N. Y.

* * * *

Dr. and Mrs. Leith Webster have returned from a trip to European countries. Dr. Webster did post-graduate work in London and other centres.

* * * *

We offer our congratulations to Dr. Douglas Telford on the occasion of his marriage on December 27th to Miss Shirley Schmidt. Dr. and Mrs. Douglas Telford will make their home in Vancouver, where Dr. Telford is now practising.

* * * *

At the regular monthly meeting of the Penticton Medical Society Dr. R. B. White addressed the Penticton medical men, dealing with early practice in the Okanagan. Drs. F. W. Andrew of Summerland and A. W. Vanderburgh of West Summerland were also present.

* * * *

Dr. Gordon C. Kenning of Victoria was elected president of the Pacific Northwest Surgical Association at its annual session in Spokane. Victoria was selected for the 1939 session. Dr. A. J. MacLachlan, Vancouver, was elected councillor.

* * * *

Dr. R. A. Hunter of Victoria has recently been elected Fellow of the Royal College of Physicians of Canada.

* * * *

Dr. L. Giovando of Nanaimo suffered an operation for acute appendicitis. We are pleased to report a rapid recovery.

* * * *

Dr. R. W. Garner of Port Alberni has had a week's hunting up the Canal.

* * * *

Dr. and Mrs. Alan Hall and Dr. and Mrs. E. D. Emery of Nanaimo plan a New Year's skiing trip on the Forbidden Plateau.

* * * *

Dr. C. J. M. Willoughby, President of District No. 4 Medical Association, has just returned from a month's post-graduate tour of New York, Toronto and Montreal hospitals.

* * * *

Dr. W. Bramley-Moore, formerly of Blue River, has just returned from a post-graduate and holiday tour as far south as Los Angeles, Calif.

* * * *

Dr. Osborne Morris of Vernon and Dr. A. Llewellyn Jones of Revelstoke were in Vancouver for the C.P.R. dinner in honour of Mr. J. J. Horne.

Dr. C. J. M. Willoughby of Kamloops, Dr. C. T. Hilton of Port Alberni, Drs. W. A. Fraser and P. A. C. Cousland of Victoria and Drs. W. A. Clarke and F. R. G. Langston of New Westminster were in Vancouver on December 14th to attend a special meeting of the Board of Directors of the British Columbia Medical Association.

* * * *

Dr. Frederick Reiss, Professor of Dermatology and Syphilology in the Union Medical College of Shanghai, called at the offices of the Association, Vancouver, B. C., on December 9th.

Dr. Reiss, who is a well-known authority on such subjects as Leprosy, Tuberculosis of the Skin, Lymphogranuloma inguinale, and a frequent writer in American and European dermatological journals, is returning to China at the end of his biennial visit to Paris, Buda Pest, London, and also American medical centres.

Dr. Reiss expressed himself as "pleasurably astonished at the size, accommodations and reference facilities in the Library and Reading Room."

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## LIBRARY NOTES

### RECENT ADDITIONS TO THE LIBRARY.

THE TRUTH ABOUT VIVISECTION, by Sir Leonard Rogers; 1937.

A small volume which presents the case for the "Anti-Vivisectionists" and the Medical Scientists.

INTRODUCTION TO DERMATOLOGY, by R. L. Sutton and R. L. Sutton, Jr.; 1937.

In one volume. This work is NOT a new edition of the "Diseases of the Skin," by the same authors, but an entirely different work.

MENINGIOMAS, by Harvey Cushing; 1938.

This book, donated to the Library by Dr. Frank Turnbull, is an inclusive work, dealing with the classification, regional behaviour, life history and surgical end results of meningiomas. It is beautifully illustrated.

THERAPEUTIC PROBLEM IN BOWEL OBSTRUCTION, by O. H. Wangensteen; 1938.

"One of the best books of its kind. A comprehensive treatise with particular reference to the physiology and biochemistry as well as treatment."—R. H.

### ITEMS FROM THE JOURNALS

TICK PARALYSIS, by G. Allen Mail and J. D. Gregson: C. M. A. Journal, December, 1938.

This article should be of particular interest to physicians in the interior of British Columbia, as an analysis is given of all recorded cases in British Columbia. The authors are connected with the Entomological Laboratory at Kamloops, B. C.

THORACIC SURGERY, Symposium, from the Clinic of Dr. Evarts Graham: Medical Clinics of North America, October, 1938.

### NOTICE

The Librarian would be glad if those members whose papers are published in other journals would supply *name* and *date* of the journal, as well as the *title* of the paper, in order that a record may be kept of publications of members.

During the past year the following articles have been published in the Canadian Medical Association Journal by members of this Association:

Cleveland, D. E. H.—"Treatment of Acne." C.M.A.J., May, 1938.

Galbraith, J. D.—"Case Report of Ruptured Achilles Tendon," C.M.A.J., December, 1938

Hall, E. R., and Hall, N. D.—"Vesico-Intestinal Fistula." C.M.A.J., April, 1938.

Strong, G. F.—"Pick's Disease"; Report of case and discussion. C.M.A.J., September, 1938.

Trapp, E.—"European Trends in Irradiation Therapy." C.M.A.J., July, 1938.

Wilson, Reginald—"British Post-Graduate Medicine." C.M.A.J., December, 1938.

# COLLEGE OF PHYSICIANS AND SURGEONS OF BRITISH COLUMBIA

## MESSAGE FROM THE PRESIDENT

The year 1938 has been a very active one in provincial medical organization.

The aim has been to maintain and improve the present high standard of medical practice in British Columbia and to co-operate in any measures designed to improve the health of the people.

Each representative on the Council appreciates fully the support given by individual members of the College throughout the Province, in an endeavor to achieve these objectives.

It is our hope that a continuance of this unanimity may enable your representatives for 1939 to face their problems with increasing courage and confidence.

May I extend to every member of the College my best wishes for the coming year.

GORDON C. KENNING,
President of the Council.

# VANCOUVER MEDICAL ASSOCIATION

The regular General Meeting of the Vancouver Medical Association will be held on Tuesday, January 3rd, in the Auditorium of the Medical-Dental Building. The speaker of the evening will be Dr. G. E. Kidd, whose subject is "Points in Physical Anthropology." Just prior to Dr. Kidd's address, Dr. S. Stewart Murray will make a short address to the members present.

# FRANCIS XAVIER McPHILLIPS

### OBIIT DECEMBER 23, 1938. AET. 73.

In the death of Dr. F. X. McPhillips, following a long illness, the medical profession of Vancouver loses one of its oldest members, and the city itself has lost one of its pioneers, a man who has for very many years been very closely identified with one of its two major hospitals, and has had a distinguished career both as a surgeon and citizen.

Dr. McPhillips first became a member of the staff of St. Paul's Hospital in 1894—44 years ago. When the writer of this obituary came to Vancouver, some thirty years ago, Dr. McPhillips was at the height of his active career and was known throughout the city as an able and even brilliant surgeon, while up and down the coast the logging and mining camps, in which hospital tickets were sold in large numbers to the men, furnished him with ample exercise for his surgical skill. To medical men he was always cordial and friendly: helpful to the younger ones, and always generous with counsel and aid. He was one of a generation that had no professional snobbishness—all working men together, doing whatever came to their hand, and doing it, on the whole, very well—hardly knowing what a specialist was used for, and caring less.

For many years, ill health has kept him from the practice of his profession, but he liked to come round to the doctors' room as long as he was able, and chat with old friends, of whom he had many.

Those of the older generation knew him and liked and respected him—he had no enemies. His gentle, kindly friendliness was always welcome, and in his departure we have lost a friend.

# CONGENITAL DISLOCATION OF THE HIP AND TREATMENT OF THOSE WHICH ARE REDUCIBLE

KARL HAIG, M.D.

(Read before the Vancouver Medical Association, December 6th, 1938.)

Although congenital dislocation of the hip is not nearly as common on this continent as it is in certain parts of Europe, it is met with sufficiently often to make it a subject of interest and importance. An increasing amount of attention has been paid to this deformity for the past number of years, yet there is still no general agreement as to treatment. This is due to the fact that treatment must necessarily vary with the age of the patient and the extent of the pathological changes found in the affected parts. In this paper the discussion of the treatment will be limited to those hips which are reducible by either the closed or open methods, because management of the irreducible congenital dislocations found in the older individuals is a separate problem.

## THE MODIFICATIONS OF THE NORMAL ANATOMY OF THE HIP JOINT FOUND IN CONGENITAL DISLOCATIONS.

*Acetabulum*: This is the cup-like cavity which receives the head of the femur, deepened by a cartilaginous ring, the labrum glenoidale, which is firmly attached to the bony rim and the transverse ligament that bridges the acetabular notch below. The source of all the trouble lies in the acetabulum. In an early case, besides the slight displacement of the head of the femur, the poor development of the upper margin of the acetabulum is striking. This is considered the primary fault to which all the other changes are secondary, and must be kept in mind in the treatment.

This malformation involves not only the labrum glenoidale but the cartilage and even the bone. The acetabulum gradually becomes triangular in outline, with the apex pointing upward and backward, and the base toward the obturator foramen. This is because of the continued growth of the upper and posterior boundaries of the acetabulum uncontrolled by the pressure of the head of the femur. The growth of the posterior boundaries of the acetabulum is excessive, owing to the unusual stresses and strains induced by the dislocation. The cavity of the socket, which is lined by cartilage, may be partly filled with fatty and fibrous tissue.

*The Femur*: The head of the femur is smaller than normal, although it is relatively large compared with its acetabulum. The head gradually becomes flattened on the inner and posterior aspects from the pressure against the ilium. Erosion of the cartilage may be seen, especially after forceful manipulations; and often it is found to be loosely attached, being easily removed by undue pressure against the acetabular margin during reduction. In the early cases, the angle of inclination which is formed by the axis of the head and neck with that of the shaft, is not sufficiently altered to be of clinical importance. Many writers have attributed failure in the maintenance of reduction to the increased angle of antitorsion (the angle made by the axis of the head and neck with the transcondylar line), but accurate estimation is very difficult and such wide variations in reports have occurred that its importance has been questioned. Nevertheless, failure to consider this departure from normal during treatment will result in occasional failures.

*The Capsular Ligament*: In a normal hip the capsular ligament encloses the joint and a portion of the neck of the femur. Above and behind, the capsule is directly attached to the bone, just wide of the labrum glenoidale, while below and in front it is attached to the bone, labrum glenoidale and the transverse ligament. Distally the capsule is attached in front to the intertrochanteric line and behind at the junction of the distal one-third and proximal two-thirds of the neck. This capsule is strengthened in certain places by thickened bands of fibres which are named after the regions of the acetabulum, *i.e.*, ilio-femoral (Y ligament), pubo-capsular and ischio-capsular ligaments. In the dislocated hips the capsule, which is carried upward with the head of the femur, blends with the periosteum above and behind the acetabulum. It is greatly thickened, especially in front, where are found the ilio-femoral fibres, and behind, where is found the ischio-capsular band, which passes upwards to arch over the neck of the femur and blend with the anterior fibres. This

forms a sling which aids in control of the upward displacement of the head, and tends to direct the head and neck of the femur posteriorly in relation to the acetabulum. The ischio-capsular fibres passing over the neck of the femur are always thickened to a greater extent than that portion of the capsule over the head, emphasizing its importance in stabilizing the upper end of the femur.

The constriction of the capsule between the true and false joints has been described many times, and prevents reduction in a number of instances, especially in older patients. It is rarely seen under the ages of 2½ to 3 years, as there is not sufficient upward displacement of the head. There is, however, an important fold of capsule running from the posterior and inferior portion upward and anteriorly which is put on the stretch on weight bearing and reappears when the tension is relieved. This is a fold of the synovial and fibrous layers of the capsule which on attempted reduction piles up at the edge or enters the acetabulum in front of the head. This is one of the reasons of recurrences in apparently satisfactory reductions and also explains the ease with which, in some hips at the time of reduction, the head slips in and out of the acetabulum. The difficulty is lessened by lifting the head into the acetabulum rather than levering it in. The ligamentum teres is present in the younger children but may be absent or unimportant in the older ones, especially if there has been previous manipulative treatment or an excessive amount of displacement. Occasionally it is found to be abnormally large and interferes with a satisfactory reduction.

*The Muscles*: The adductor group is always shorter than normal, and may offer resistance to reduction except in the younger group. Stretching or rupturing may be necessary.

*Rectus Femoris.* The long head is shortened and aids in stabilizing the dislocated head. It does not offer difficulty to reduction, as the tension is relieved by the flexing of the hip.

*Ilio-Psoas.* Instead of running downward and inclining backward from the interior of the pelvis, it passes much more definitely backward and horizontally in close contact with the capsule to its insertion on the lesser trochanter. When the femur is displaced upward, this muscle and tendon takes a large amount of the strain and acts as a sling to support the pelvis on the femur. This is demonstrated by the deep groove below the anterior inferior spine found in adult specimens. This tendon may prevent reduction and tenotomy is often necessary.

*The Glutei.* There is no important alteration in length of these muscles, as the greater trochanter, to which they are attached, is displaced outward as well as upward. The gluteus minimus is in close contact with the capsule and aids in support of the displaced head.

*The External Rotators.* This group of muscles, namely, the obturators, gemelli and quadratus, have an important function in helping to keep the head of the femur held snugly into the acetabulum. In dislocations the direction of the fibres is changed from a horizontal direction to horizontal and upwards, which also acts as an additional sling to the pelvis. Following reduction they are slack, but they gradually regain their tone and assume their normal function of maintaining the head in the acetabulum.

*Suspension of the Pelvis on the Femur.* From the anatomical study this mechanism can now be understood. The work is divided between the capsule and the muscles, the bones playing very little part. In the capsule special thickened bands take most of the strain, especially the ischio-capsular sling from behind. The important muscles are the ilio-psoas in front, the obturators and gluteus minimus behind.

### The Signs and Symptoms Useful in Making an Early Diagnosis.

In the past, this condition has been rarely recognized before the child began to walk and the limp became noticeable. Radiological examination, which is necessary for accurate diagnosis, cannot be carried out on all infants as a routine, but there are certain early suggestive signs which should warrant this examination. Eighty-five per cent of dislocated hips are found in females and unilateral cases outnumber the bilateral two to one.

1. Congenital deformities are often multiple, so in the presence of such a defect, *i.e.*, club-feet, cleft palate, etc., other such lesions should be searched for.
.2 In the presence of a congenital dislocation of the leg or legs are maintained in an accentuated position of flexion on the abdomen for some time following birth.

3. Upon examination a hollow can be felt, anteriorly, over the hip joint. In a unilateral case, comparison with the other side is useful.
4. If, when the side of the pelvis is fixed with one hand, the femur can be felt to move upward and downward by alternate pressure upward and pull downward on the leg with the other hand (telescopic movement), it is very suggestive of the presence of a dislocation.
5. When a mother suggests the possibility of something being wrong with the legs it is best to investigate, because they commonly notice the slight difference between the two limbs.
6. The hip joint is abnormally mobile in all directions except abduction, which is restricted.
7. Children with bilateral dislocation often learn to walk later than usual.
8. In unilateral cases shortening may be demonstrable with the greater trochanter displaced above Nelaton's line.

After walking begins, the characteristic gait with the limp becomes noticeable.

The Trendelenburg sign is important, which is as follows: When a normal child stands on one leg with the opposite thigh flexed on the abdomen, the side of the pelvis with the flexed thigh will rise to get the centre of gravity over the centre of support. If the hip on which he stands is dislocated, the opposite side of the pelvis lowers, because there is no firm point upon which to adjust the centre of gravity and the pelvis tips to impinge against the shaft of the femur. The gait is a repetition of the above procedure at each step.

The Trendelenburg sign may be found in other conditions, such as: (1) Ankylosis of the hip joint in adduction; (2) severe coxa vara preventing adduction (Perthes'); (3) paralysis of the abdominal muscles, as found in poliomyelitis. These conditions can be differentiated by a complete history, examination and x-ray.

There are two other conditions which cause a limp in young children and may confuse the diagnosis:

1. The mild cerebral spastic in which only one lower limb is affected. In these cases the history is that of a backward child, slow in development such as sitting up, talking and walking. The muscles are spastic and reflexes are exaggerated. There is no real shortening present.
2. Early T.B. of the hip. Pain is usually complained of in the knee and all motions of the hip joint are restricted. X-ray examination is useful. There is no real shortening present.

## Treatment.

The treatment of congenital dislocation of the hip has undergone changes in the past with advocates for both the closed or open methods. In the more recent years it has been shown that no one method is suitable for every case but that both methods have their place. With a better knowledge of end results, the term "successful reduction" has had to be revised, as a basis of evaluation of treatment depends on precise observations of patients over a period of years. Organized clinics have made this possible.

Putti, with his associates, has shown the tremendous advantage of treatment during the early months of life. At the end of five years, more than 80% have been cured by closed manipulation, which proves the value of early diagnosis, but there are the remaining 20% for which some other type of treatment is necessary.

The first important problem is to differentiate as early as possible between the two groups: (1) Those cases that closed reduction will cure, or (2) those in which closed reduction will not effect a cure.

*Closed or Bloodless Reduction.* No definite age limit can be set for successful closed reduction, as there are other important factors upon which success depends. However, the possibility of satisfactory replacement is poor after the age of three or four years.

Before or shortly after walking begins, the upward displacement of the head of the femur is slight, and it is during this time that this method of treatment is most satisfactory. No preliminary traction is necessary and the manipulation should be carefully and gently

done to prevent damage to the cartilaginous surfaces. The head is best lifted into the acetabulum at its upper border to mitigate the chances of having a portion of the capsule enter in front of it. If, at this time, the characteristic "snap" is associated with the entering of the head into the socket, reduction is almost certain to be successful. On the other hand, if the head slips easily in and can be easily re-dislocated, one of three conditions may be present: (1) The capsule has been invaginated; (2) the acetabulum is inadequate, either being relatively too small or insufficient development of the superior and posterior portions; (3) the ligamentum teres is large and prevents the head from entering snugly.

Although it may be felt that successful reduction has not been accomplished, it is wise to continue with the conservative treatment, with immobilization in plaster, beginning in wide abduction and gradually decreasing the abduction at each change of cast. The immobilization is maintained for six months. X-ray examination should be made after reduction and after each successive change of position. At the end of this time the cast is removed and the child is allowed to be free in the crib for a few weeks. If re-dislocation does not occur, walking is allowed, with x-ray examination every four or six weeks. At the end of nine to ten months, all being well, the child may be discharged after definite arrangements have been made for future interval examinations.

*Open Reduction.* An open reduction should be done if either partial or complete re-dislocation occurs during the above treatment. At the operation it is not only necessary to replace the head, but the condition which has prevented closed reduction must be corrected. When there is very little upward displacement of the head, reduction can be accomplished without undue intra-articular tension, which must be avoided. The cast is applied with the leg in abduction 20 to 30 degrees with some internal rotation and maintained for three months. The amount of internal rotation should vary with the degree of antitorsion of the head and neck, otherwise re-dislocation may occur.

In older children up to the age of nine or ten years open reduction is almost routinely necessary. The shortening must be first corrected by gradual traction, the most efficient being skeletal traction. This may take a few weeks or even months, and when the head has arrived at the level of the acetabulum, traction should be maintained for a further two to three weeks to allow the shortened structures to become accommodated to the new position. At the operation it may be found that the head cannot be readily placed in the socket. The conditions which may prevent reduction are:

1. The adherence of the capsule to the ilium above the socket, which was described by Kidner in 1931. This must be reflected downward and backward. The tendon of the ilio-psoas may be found encroaching on the cavity from below, which may need tenotomy.
2. Close adherence of the ischio-capsular portion of the capsule to the neck of the femur, which prevents bringing the head forward to enter the socket. This may have to be stripped away to mobilize the head.
3. Small, shallow acetabulum which needs deepening. It frequently contains fatty and fibrous tissue, which is removed with scissors or scalpel, and if the ligamentum teres is elongated and thickened it must be excised. Further deepening is usually necessary, and it is better not to remove all the cartilage to expose the bone, thus endangering the mobility of the joint, but to turn down a sufficiently large shelf. The shelf is the outer table of the ilium turned downward and maintained by bone wedges above it.

Immobilization in plaster is necessary for ten to twelve weeks, following which physiotherapy treatment aids in the return of function. Weight-bearing is then allowed ,and if the head of the femur shows changes, such as erosion or flattening, a walking caliper is used to relieve the pressure on the head. The Bradford abduction type is useful and is worn for six to twelve months.

## Summary.

A description of the pathological changes found in congenital dislocation of the hip has been discussed, pointing out its important relationship with the treatment.

Emphasis has been placed on the necessity for early diagnosis and treatment, at which time closed reduction gives the best results. In those cases where partial or complete recur-

rence follows closed reduction, open operation is necessary not only to reduce the hip but to correct the pathological conditions found. Observation of each case for a period of years is necessary before the end result can be evaluated.

A normal hip joint is often not obtained in the older age group, but two important advantages are gained: (1) The shortening is eliminated; (2) in later life, if the hip becomes painful, arthrodesis can be carried out.

Without treatment in early life, very little can be done for the painful congenital hip in adult life.

* * * *

The discussion which followed this paper was of great interest. Among those taking part were Drs. Meekison, Boucher and Naden, and certain points were stressed by these speakers. The importance of early diagnosis, and the necessity for impressing on the obstetrician and pædiatrician the necessity for watchfulness, since most, if not all, of these cases can be recognised early in life, but will often not be recognised, because the medical man is not thinking of the possibility of the condition. The early manifestations are rather obscure at times, and may easily be missed. But since the best results can only be obtained by early diagnosis and treatment, it is incumbent on those who are in charge of children to be on the constant lookout for the suggestive signs, and to confirm or exclude the possibility of congenital dislocation by x-ray examination.

One speaker referred to the suggestion that had been made as to etiology: viz., that the growing size of the human head makes a wider pelvis necessary in female children; this predisposes to congenital dislocation by accentuating the angle of the femoral head with the acetabulum. Since most cases are in females, this suggestion sounds plausible; but to the unspecialised thinker it occurs that there is very little sexual differentiation at the time of birth. Also, we remember having seen negro children with congenital dislocation, and the pelvic girdle in the African race has not, we think, changed for these reasons at least.

—Ed.


# British Columbia Medical Association

**(Canadian Medical Association, British Columbia Division)**

| | |
|---|---|
| President | Dr. D. E. H. Cleveland, Vancouver. |
| First Vice-President | Dr. F. M. Auld, Nelson. |
| Second Vice-President | Dr. E. Murray Blair, Vancouver. |
| Honorary Secretary-Treasurer | Dr. A. H. Spohn, Vancouver. |
| Immediate Past President | Dr. Gordon C. Kenning, Victoria. |
| Executive Secretary | Dr. M. W. Thomas, Vancouver. |


## A MESSAGE FROM THE PRESIDENT

*"Hands All Round"*

1939 is the first year that begins with the provincial medical association bearing its augmented title, British Columbia Medical Association (Canadian Medical Association, British Columbia Division). By this title is implied no abridgement of its rightul position; it has lost nothing of its autonomy. On the contrary, by amalgamation with and becoming a division of the Dominion association, it has, paradoxically perhaps, become greater. It has ceded nothing, but it has gained, and the Dominion body has gained. If "One for all and all for one" was hitherto but a pious aspiration, it is now an accomplished reality.

Medicine in Canada is today faced with a formidable array of quicksands and mazy jungles opposing its progress. Progress it must, that civilization may endure. It cannot progress and function unless it moves as an intelligent and organized body. This applies not only to provinces but to individuals. Organs which function are necessary to a living body. Organs are not composed of disparate particles of matter.

Our organs are our district societies and our standing and special committees. These are strong and active organs. Not a doctor in British Columbia but has profited in

numerous ways by their activities. But not all who have thus profited have been members of organized medicine.

The Canadian Medical Association is seeking to increase its membership. Appeal is made not merely to a spirit of altruism. No one is being asked to "help a cause." Under amalgamation the problems and difficulties facing the doctor in Saskatchewan, Ontario and Nova Scotia can be helped by organized medicine in British Columbia, just as we here in the Pacific region can and will profit by the work and weight of organized medicine in the other provinces.

In wishing the members of the medical profession in British Columbia a Happy and Prosperous New Year it is in the firm belief that the realization of this wish is at our hands, and will be accomplished by—taking hands.

D. E. H. CLEVELAND.

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## BUILDING MEMBERSHIP IN THE CANADIAN MEDICAL ASSOCIATION

When the British Columbia Medical Association in September last became the British Columbia Medical Association (Canadian Medical Association, British Columbia Division), we assumed the responsibility of furthering the interests of the national body in British Columbia in a much more definite way than heretofore. We are now an integral part of the Canadian Medical Association. IT IS OUR ASSOCIATION. HOW CAN WE HELP?

First, by building up as large a membership in the Canadian Medical Association from British Columbia as possible. To this end your Constitution and By-laws Committee has been carefully selected with a view to having a local man in nearly every district in the province assisting in the work.

The Council of the College of Physicians and Surgeons has gladly consented to collect the annual fee for membership in the Canadian Medical Association, which for 1939 will be $8.00 instead of $10.00 as formerly, and remit to the C. M. A. Notice of this will be mailed with their usual letters around the first of the year. It is hoped that many new members will be obtained in this way.

All members of our provincial society received copies of the *Canadian Medical Association Journal* in December, non-members of the C. M. A. receiving complimentary copies through our own Division. I wish to draw attention to the article by Doctors Leggett and Routley on page 589: "Why should I belong to the Canadian Medical Association?" Space does not permit us to comment further.

It will be the aim of your Committee this year to build up this membership and we trust and hope that all members will take this matter under serious consideration. Certainly the need for a strong national association is becoming more apparent every day. You can help materially by joining the Canadian Medical Association now, receiving the *Journal,* which in itself is worth $8.00.

Copies of the new Constitution and By-laws of our provincial association are being mailed to every member. I shall have the privilege of including a letter which will deal in a little more detail with this whole matter.

HARRY MILBURN, *Chairman,*
Committee on Constitution and By-laws.

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Dr. and Mrs. H. H. McKenzie of Nelson are holidaying in Seattle and coast cities.

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Dr. J. A. Murison of Powell River is away for two weeks during the holiday season.

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Dr. W. J. Elliot is assisting Dr. O. O. Lyons during Dr. Murison's absence.

# CANCER SECTION

## CANADIAN SOCIETY FOR THE CONTROL OF CANCER

On November 1st, immediately following the meeting of the Department of Cancer Control, the first meeting of Grand Council of the Canadian Society for Control of Cancer was held. This Grand Council is composed of two representatives from each province and a central board of directors in Toronto. The two representatives from each province are the chairman of the provincial branch and a lay councillor. Mr. Duncan Bell-Irving accompanied your chairman to this meeting, at which the attendance was 100 per cent. It was a meeting largely to determine policy and many matters pertaining to organizaiton.

A very full agenda was submitted, on which much discussion arose. Of particular interest to everyone was the report submitted by each of the provincial Grand Councillors. British Columbia gave a good account of its activities to date. As we are considerably further advanced in our organization, our report was considerably fuller than those of the other provinces. Alberta, Saskatchewan and Manitoba gave a good account of their work, while the eastern part of Canada has just started on the organization. But now that a start has been made, the eastern provinces will greatly benefit by the round table discussion of our common problems.

The aims and objects of the society were fully outlined in the report of the Board of Directors and some of them discussed.

### Publicity.

Publicity received a great deal of attention and free discussion. It divides itself into two groups: (a) general from Headquarters to consist of a bulletin, phamphlets, and at times, probably, radio broadcasts by selected speakers whose broadcasts will be previously approved by the Board of Directors. In this connection, the bulletin will be published as soon as possible, to be supplied to each member and to be used to disseminate cancer knowledge for organization purposes. The sum of $5,000 was very generously given for this purpose by Mr. J. K. Morrow, one of the Board of Directors. Pamphlets will be prepared and will be obtainable from the Secretary's office on request. (b) Local publicity, censored by the Provincial Publicity Committee before release to the Press.

### Membership Fees and Campaign.

It has been decided to continue with the One Dollar annual membership fee for the present year at least, in accordance with our agreement with the Cancer Foundation of British Columbia, so as not to interfere with their plans for the collection of larger sums where possible to aid in the operation of their radium therapeutic and diagnostic unit already established in Vancouver.

The matter of membership campaigns was left entirely to the provincial bodies as to type and time. No national campaign, as such, will be inaugurated.

Membership cards will be issued by the General Secretary, Dr. Ross, on receipt by him of the stubs and the 25 cents for each member. Membership will be for the calendar year and at the discretion of the provincial committee, membership this year during the organization period will be renewable in 1940. The renewal notices will be sent out from Headquarters to the provincial branches for mailing and the local units will be responsible for these renewals by personal contact with the members, where possible.

### Medical Speakers.

A formal request to the Canadian Medical Association for medical speakers was sent forward. While it has already been definitely part of the policy and activity of the Canadian Medical Association to supply medical speakers, it was courtesy on the part of this society to so request them to do this. This doubly assures the Canadian Society for Control of Cancer of the co-operation and support of the Canadian Medical Association and at the same time strengthens the provincial committee's hand in their request for speakers.

The formation of a Speakers' Bureau in British Columbia assures the society that only those duly qualified and approved by the Canadian Medical Association, British Columbia Division Speakers Committee, are available on request to give addresses to lay audiences on cancer.

### Library At National Headquarters.

There will be established, as time goes on, a Library for books, literature and educational films. We have already requested the use of suitable films for organization and educational work. When these will be available largely depends on what funds are available for that purpose, over and above organization expenses.

### Emblem.

The selection of an emblem for the Canadian Society for Control of Cancer was left to the Board of Directors.

The problem of enlisting the aid of national bodies, such as service clubs, etc., will be taken up by the Board of Directors through the headquarters of these national bodies, thus enlisting their support from a national point of view.

### Organization.

The programme of cancer control is definitely set out, both as far as the medical profession and the laity are concerned. It is our task to assist in carrying this out. Help to organize your hospital study groups and your local unit. In supporting these two you are greatly helping your profession and your community. The Canadian Medical Association, Department of Cancer Control, through your provincial committee chairman, Dr. Roy Huggard, earnestly solicits your co-operation. The Canadian Society for the Control of Cancer thanks you for your support in the past and solicits your continued effort so that we may maintain our high place in the development of our provincial branch.

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## CANCER

With reference to the reports of the meeting of the Canadian Society for the Control of Cancer and the Department of Cancer Control of the Canadian Medical Association contributed by Dr. A. Y. McNair, it is interesting to note that an account of both of these meetings appears in the December number of the Canadian Medical Association Journal, giving a rather fuller account than was possible in Dr. McNair's account.

* * * *

At the request of the Directors of the British Columbia Cancer Institute, a Committee of the Directorate of the B. C. Medical Association met them and held a conference. The upshot of this was briefly as follows:

The B. C. Medical Association agreed to furnish a list of names to the Board of Management of the Institute, from which would be chosen an Active Attending Staff. This list will comprise names of physicians practising in Vancouver, and the members of it will treat only patients within the actual institute, if and when this body has arrangements for treating intramurally those who need treatment. Otherwise, no interference with existing systems will occur. Patients referred to their own physician or to the Hospital Staffs will be looked after by one or other of these. Presumably diagnosis will be a function of the Attending Staff of the Institute.

The B. C. Cancer Institute, in turn, binds itself to select its Attending Staff from this list exclusively.

A Consulting Staff will similarly be appointed, and selected from a list furnished by the B. C. Medical Association. This Staff will have representatives from every district of the Province at large.

A representative will also be appointed to the Board of Management of the Cancer Institute by the B. C. Medical Association.

It is noteworthy that in choosing these staffs, the Directors of the B. C. M. A. have taken great care to see that every interest is fully represented. Both the big hospitals will, it is hoped, have the fullest representation, and it must be clearly understood that the B. C. Cancer Institute is a separate organization, and its plans are to remain so, and to grow as an integral unit of a wider scheme, which will be provincial in scope. The Directors of the institution have assured us that this is their intention. Questions of medical policy will be decided by the medical staffs in conjunction with the present medical directors of the institute. Every precaution will be taken by all those concerned to ensure that certain conditions are fulfilled. Among these are to ensure that adequate treatment and diagnosis are available to everyone who needs them, regardless of financial circumstances. Again, in the case of those who are able to pay for these things, no unfair competition with practising physicians, or those who are especially fitted to deal with radiology, etc., will be allowed, and every precaution will be taken to prevent this.

The British Columbia Medical Association was asked by the management of the Institute for its co-operation and help in the proper organization, staffing, etc., of this new institution, and has agreed to provide such aid. In this way, the profession of medicine in British Columbia will be able to do its share in the fabrication of this new weapon of warfare against cancer, and will at the same time be able to exercise its duties of control of diagnosis, prevention and treatment.

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# THE EDUCATIONAL ADVANTAGES OF THE TUMOUR CLINIC

By George M. Dorrance, M.D.
*Philadelphia, Pennsylvania.*

Reprinted from *The American Journal of Roentgenology and Radium Therapy,* Vol. 38, No. 4, Oct., 1937.

No single factor in the treatment of tumours has contributed as much in a scientific way to both patients and doctors as the properly conducted tumour clinic.

It is unreasonable to expect any physician to be as familiar with surgical and medical specialties, the specialized diagnostic and therapeutic treatments, or roentgen rays, radium, etc., as specialists devoting their entire time to their specialty.

Likewise, it is inevitable that specialization contracts a man's vision often to a point where his particular part or organ alone comes into focus, and he develops medical astigmatism and gets a distorted view of any disease.

Doctors being human are prone to overemphasize the importance of the particular type of treatment with which they are most familiar. Witness the absurd claims made by surgeons doing radical surgery alone, roentgenologists, radiologists, and others, in the treatment of various malignant conditions, not only in the past but even at the present time.

At the American Oncologic Hospital in Philadelphia, a hospital devoted exclusively to the treatment of tumours, we have a staff composed not only of leading representatives of each specialty but a number of older and experienced general practitioners.

This clinical conference conducted by senior members of each department meets once a week. To these meetings are invited any physicians interested in tumours or in having a study made of their patients. In this way, we give the general men a post-graduate way of keeping up. The resident interne presents the history and the report of the physical and laboratory examinations in a chart given to each person attending the clinic. Each man present is invited to examine the case and express an opinion, and his remarks are recorded.

At these meetings our average roll call reveals two or three roentgenologists, radiologists, three pathologists, two or more surgeons, one plastic surgeon, two oral surgeons, one genito-urinary surgeon, one gynæcologist, one or two dermatologists, one or two internists

and one or two dentists, besides the full-time staff. The patient coming before such a group is assured of obtaining a worthwhile opinion on diagnosis and treatment.

This group consultation, in the beginning at least, does more for the doctors than for the patients. It is a revelation to see how the narrowed viewpoint of the specialist becomes increasingly broader as he reviews the work of his colleagues. In a comparatively short time we find the ophthalmologist or otolaryngologist patiently waiting for a review of the general health of the patient, the report of his blood chemistry, the results of his prostatic examination and so forth before venturing an opinion of the local lesion present.

This is true in each department, and after a year or more of these clinics, while arguments continue to be as prolific as ever, there is engendered a feeling that the individual as a whole must be carefully studied, regardless of the local manifestations of the disease presenting itself for treatment.

The surgeon is at first as amazed at the suggestions offered and the results obtained by the roentgenologist as the latter is by the former's statements. Each learns quickly the limitations of their own specialty and readily adopts the combined methods, with infinitely better results.

The pathologists see, often for the first time, living pathology—see the biopsy done; study the fresh tissue; and report the findings to the clinic. They see the tumour removed and have an opportunity of rechecking their findings. They follow the case in the clinic often over a period of years. Their viewpoints are certain to be influenced by their intimate contact with the patient, and unquestionably their ability to prognosticate the activity of the cells present is enhanced by this experience. Perhaps pathology as a whole has been modified more than any other specialty by these group meetings.

We insist on free discussion of all cases after the patient has left the room. A careful record is kept of each man's opinion and his prognosis. Six months or a year later, when the patient has returned during the course of the follow-up, these opinions are available, and in many cases their authors are loath to claim them. It sooner or later gives one a much better ability to make a prognosis.

It is the younger man, however, who receives a real education by attending these clinics. It has been gratifying to note how quickly he loses his cocksureness and what his professor has told him, and how rapidly he progresses in his ability to weigh the various possibilities present before venturing a diagnosis or an outline of treatment.

In a single year a man will see more varieties of tumour cases studied from all angles than most of us have had the privilege of seeing in a lifetime.

I am convinced that our group study has done more to systematize the study and treatment of tumours, and to give all of us a broader viewpoint of the subject in the past five years than any one of us working alone could have hoped to accomplish in twenty years.

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## THE LAST FEE

The late Dr. B——, of Bristol, who died very rich, coming into the bedroom of a patient a very few minutes after he had expired, perceived something glittering through the clenched fingers of one hand; he gently opened them, took out the guinea, and put it into his pocket, observing, "This was certainly intended for me."

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Dr. Edward Stephen Hoare and Miss Ruth Crump, a graduate of Royal Alxeander Hospital, were quietly married in Nelson on December 2nd. We wish them every happiness. They will reside in Trail.

* * * *

Dr. and Mrs. G. S. Gordon left on the R.M.S. *Niagara* for the Antipodes, where they will spend several months.

* * * *

Dr. R. N. Dick of Chemainus called at the office when in Vancouver last week.

* * * *

Dr. K. Wray-Johnston was married on November 5th. After a honeymoon in the South he is now back at Pender Harbour.

# Preventive Medicine Section

## THE TREATMENT OF EARLY SYPHILIS

(*Part* I.)

DONALD H. WILLIAMS

Early syphilis includes all acquired syphilitic infections less than four years in duration. It is divided into the following types:

1. *Primary syphilis* or chancre, which may be genital or extragenital in site, and seronegative or seropositive depending on the results of the serodiagnostic test.

2. *Secondary syphilis*, all infections exhibiting clinical evidence of disease. It may involve any organ or tissue in the body, but its main manifestations are: (a) Skin and mucous membrane; (b) nervous system; (c) visceral—liver particularly; (d) ocular; (e) bone.

3. *Latent* (early type) includes all other syphilitic infections than those above of less than four years in duration. This diagnosis is based on exclusion and is made when the history suggests the infection is less than four years in duration, and thorough physical and laboratory examination reveals no other evidence of syphilis than a positive blood Kahn.

### How to Determine the Duration of a Syphilitic Infection.

Where there is a definite history of primary or secondary syphilis no difficulty is presented. Many persons, however, do not have primary or secondary manifestations and in others, if they do occur they are evanescent and not observed by the patient. In these individuals it is more difficult to determine whether their infection is more or less than four years in duration. The following generalisations may be of assistance:

1. Since many women acquire their infections maritally it can be assumed that they are infected within the first year after marriage, unless there is evidence to the contrary. The date of marriage, therefore, in many instances will serve as a guide to the date of infection in a woman.

2. A history of gonorrhœa in a man or woman suggests promiscuity and it may be assumed that the syphilitic infection may have been acquired about the same period as the gonorrhœal one.

3. The majority of syphilitic infections in men are acquired before thirty years of age. If there is no evidence to the contrary it may be assumed that syphilis in a man under thirty years is of less than four years in duration and therefore of early type.

The above generalisations are by no means always correct, but where there are no other guiding facts they will apply to the majority of cases.

It is important to determine whether the syphilitic infection is less or more than four years in duration because:

1. *A routine treatment* is applied to all types of *early syphilis* (less than four years in duration).

2. *Individual treatment* must be applied to all types of *late syphilis* (more than four years in duration).

# Victoria Medical Society

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THE PROVINCIAL ROYAL JUBILEE HOSPITAL
Victoria, B. C.

## CLINICAL PATHOLOGICAL CONFERENCE

A clinical Pathological Conference was held at the Royal Jubilee Hospital on Friday, October 21st, 1938, at 12 noon, under the chairmanship of Dr. G. A. McCurdy. Three very interesting and unusual cases were presented.

FIRST: Dr. H. M. Robertson presented case No. 4102 (E.J.T.) aged 72 years.

*Complaints:*

Diarrhœa previous to admission—one day five bowel movements.
Nervous, upset, past two or three days.
Nerve pains in legs off and on for a numbre of years.

*Present Illness:*

Admitted to hospital after having pain in abdomen all night unrelieved by sedatives.

*Past History:*

Patient stated that he apparently was in good health until 1922. From 1922 until the present time he has had sixteen admissions to hospital. Complaints on various admissions have been—sciatica, pleurisy, rheumatsim, stomach trouble, prostatic gland trouble, weakness, stomach disorder, artery and nerve pains, general breakdown, hæmorrhoids, diarrhœa, influenza and various other vague aches and pains. During all these years, when complaining of pains in various parts of abdomen, the x-ray examinations have been negative for any organic lesion. The vague abdominal pains have been attributed to arterio sclerosis of the abdominal vessels. Diagnosis—In the past has always been arterio sclerosis, until Sept. 21st, 1938, when he commenced complaining of the above symptoms.

*Personal History:*

Has lived in Victoria for several years and in the past has been a rancher at Sooke and has always lived out of doors.

*Present Condition:*

White male of 72 years. Very pale. Sitting up in bed. Looks very ill. Very weak and rapid pulse. Complaining of considerable pain just behind the sternum. Looks like a case of coronary thrombosis but no pain radiating to neck or arm and pain in chest and in abdomen. Cardiac examination—Practically no air entry into left chest, suggesting complete collapse of the lung on that side. Chest normal contour, expansion most marked on right. Increased resonance to percussion entire left chest. Right chest apparently normal. Vocal fremitus markedly increased on right. No transmission of vocal fremitus on left. Posterior chest—Right side expansion adequate. Outline of heart not percussible. Heart tones not distinguishable in any position. Abdomen—Flaccid musculature, suggestion of muscle guard in epigastrium, no abnormal masses palpable, no distinct tenderness. Hernial rings firm. Genitals—No pathological findings. Extremities—Negative.

*Provisional Diagnosis*—Coronary thrombosis; collapse of lung, L.; acute pancreatitis; acute pleurisy; acute cardiac thrombosis.

As far as abdominal rigidity was concerned, it differed from that of acute perforation, in which one would get more board-like rigidity. In this case occasionally one would feel relaxation of the abdominal muscles and the rigidity would let go.

*Progress*—23-9-38—a.m., patient complained of nausea and severe pain in lower chest, most marked on the left. Some pain under sternum. 23-9-38—p.m., patient semi-stuporous. Skin cold and very moist. Considerable pain in chest and epigastrium, most marked on left. Pulse rate very rapid. Respirations markedly increased. Sudden collapse. Expired.

Dr. McCurdy exhibited slides and diagrams of the chest condition found at P.M.:

(1) Perforation of oesophagus with ulceration into the pleural cavity.
(2) Acute oesophagitis.
(3) Acute pleuritis.
(4) Acute bronchitis.

*Differential Diagnosis* was discussed by Dr. McCurdy:

(1) Acute oesophagitis
(2) Carcinoma.
(3) Syphilis.
(4) Tuberculosis.

The etiology was not decided upon.

* * * *

SECOND: Dr. Thos. Millar presented case No. 2575 (Mrs. C. M.) aged 68 years.
Point of interest—Patient surviving several months massive embolism of right lung.

*Complaints:*

Sudden difficulty in breathing, severe. Inability to stand on feet.

*Past History:*

Five years ago stated that she had some kind of nervous breakdown. B.P. was high. Has had five children. No miscarriages. Some years ago (2) was several weeks in hospital with pneumonia. B.P. has varied from 175/80 to 145/70 under treatment. About a year ago attempted to commit suicide. Was very depressed. Tried to poison herself. Was then treated in hospital to reduce heart action. Digitalis did not seem to help very much at first. Was then sent to the Old Ladies' Home. Had previously lived in the country.

*Present Illness:*

June 11th developed dyspnœa, cyanosis, cardiac pain, nausea and vomiting. Condition not improving, she was brought into hospital June 13th.

*Present Condition:*

Very cyanosed. Difficult in standing. Difficult breathing. B.P. 160/70. Lips and finger-nails cyanosed. Extremities blue and clammy. B.S. broncho-vesicular, rales at both bases. Heart enlarged to the left, sounds faint and irregular. Pulse irregular and weak. Liver edge palpable. Spleen not palpable. No free fluid. Extremities very cyanosed and cold. No evident œdema. Patient rational and apprehensive. N.P.N. 75mg. R.B.C. 6,030,000, Hgb. 117%. Color index .97.

*Clinical Diagnosis*—Myocardial degeneration.

P.M. revealed marked thrombosis r. pulmonary artery.

Dr. T. Miller: "After P.M. would phlebitis be part and parcel of the whole condition that was tending on to thrombosis?"

Dr. McCurdy presented diagrams of the condition found at the P.M. in pulmonary artery.

*Pathological Diagnosis*—

(1) Embolism l. pulmonary artery.
(2) Organized thrombosis r. pulmonary artery.
(3) Infarction of kidneys and spleen.
(4) Chr. vascular nephritis.
(5) Gangrene both feet.
(6) Arterio sclerosis.
(7) Hyp. of fibrosis of heart.

Interesting point—Healed right pulmonary artery thrombosis. Death due to massive embolism in left pulmonary artery.

Dr. McCurdy: "Strange that patient lived after thrombosis of right pulmonary artery."
Slides were exhibited by Dr. McCurdy of the pulmonary artery.

THIRD: Dr. R. C. Newby presented case No. 2669 (A.J.) aged 63 years.

*Complaints:*

Vomiting "gallons" after meals.
Loss of weight. Loss of strength and marked weakness.

*Past History:*

In hospital for two months in 1937 with diagnosis of cystitis and hypertrophy of prostate. In hospital March, 1938, for cystitis and diagnosis of pernicious anæmia. In hospital two weeks in May, 1938; diagnosis —pernicious anæmia and cystitis.

*Present Illness:*

Since leaving hospital, one month ago, patient has been much the same, but for the past three weeks states that he vomits "gallons" after every meal and has been losing weight and strength. His burning and pain with frequent micturition have persisted.

*Present Condition:*

General physical examination essentially negative apart from sausage-shaped mass felt in epigastrium. Diagnosis—Small bowel obstruction was made in spite of the x-ray examination being negative. Patient at all times refused operation and died 4-7-38.

Dr. W. E. M. Mitchell, as consultant in the case: "Small bowel obstruction although x-ray examination negative."

Dr. Murphy exhibited films and explained the negative findings, of the case, and compared them with the positive findings of another case, also showing the films. The second case was one of carcinoma of the jejunum, correct diagnosis being made by x-ray with operation following and favorable results. Operation in 1932. Patient still alive and well today. Specimen of growth removed was exhibited.

Dr. McCurdy exhibited diagrams of condition found at the P.M. of stomach, jejunal flexure and intussusception of jejunum beginning at the ligament of Trites, also showed a rather beautiful colored photograph of the specimen *in situ*.

*Pathological Diagnosis—*

(1) Carcinoma of jejunum.
(2) Intussusception of jejunum.
(3) Dilation of stomach.
(4) Paralysis of ileus.
(5) Early broncho pneumonia.
(6) Chr. pericarditis.
(7) Chr. vascular nephritis.
(8) Cystitis.

Dr. Millar asked: "Had it been possible to get patient to x-ray would diagnosis have been made easier?" (Second case presented.)

Dr. Murphy answered that he did not think so.

Dr. Murphy then exhibited films of diverticulum, showing possible basis of the etiology of the perforation.

Dr. McCurdy thanked Drs. H. M. Robertson, T. Miller and R. C. Newby for presenting their cases and also Dr. Murphy for his demonstrations.

The meeting then adjourned.

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# Vancouver General Hospital

## CASE REPORTS

### I.—DISSECTING ANEURYSM OF THE AORTA

DR. D. M. MCLAREN.

Male. White. Age 55.

*Entrance Complaints*: (1) Pain in the region of the umbilicus and low sub-sternal pain for five hours; (2) dyspnœa at rest for five hours; (3) nausea, five hours.

*Past Illnesses*: (1) Shrapnel wound in 1917, liver and right kidney damaged; (2) has had hypertension for several years; (3) nervous breakdown seven years ago. Recovery complete (?).

*H. P. I.*: Patient was well until 4 p.m. July 12, when he suffered a sudden, severe sub-sternal pain at the level of the fifth costal cartilage. This occurred two hours after a normal meal, while he was resting. It was not relieved by walking about for 15 minutes, so he lay down, and pain appeared to radiate into his abdomen, being most severe below his umbilicus. Accompanying this was marked shortness of breath and nausea. An enema given produced normal returns. This was his condition on admission to hospital at 9 p.m.

*Functional Enquiry*: C.V.—Exercise tolerance previously good. No œdema.

P. X.—T., 97.1. P., 65. R., 22.

Patient was extremely restlses, perspiring freely, felt cold, no cyanosis. He also was definitely confused mentally.

The apex beat was in the fifth interspace and left nipple line, with the left border of the heart a half to one inch to the left of normal. Pulse was of fair volume. Blood pressure 148/98.

The abdomen was soft and flabby, no rigidity, but some voluntary resistance present. Slight tenderness in the epigastrium. Definite tenderness below and lateral to the umbilicus, but more marked on the left side than on the right.

*Progress*: Morphia, gr. 1/4, was administered, and condition remained unaltered until 11 p.m., when respirations ceased, but apex beat was palpable.

Oxygen and adrenalin with artificial respiration proved of no avail, and patient died at 12:15.

*Autopsy Report*: On opening the pericardial sac approximately 100 cc. of blood was found. The intima of the aorta was covered with numerous yellowish plaques. On severing the aorta at its bifurcation a soft clot was discovered between the media and adventitia, and this was found to extend throughout the whole length of the aorta. At the site of the origin of the left innominate artery there was a rupture through the intima and media in the area of some atheromatous degeneration. This proved to be the site of origin of the aneurysm, which extended upwards also into the right subclavian and common carotid arteries, and, as well proximally to the base of the aorta, and here ruptured into the pericardial sac to produce the blood found there.

*Clinician's Diagnosiss* (1) Dissecting aneurysm of the aorta. Also found: (2) Twisted ureter; (3) ureteral stone.

*Pathologist's Diagnosis*: (1) Dissecting aneurysm of the aorta.

R. D. MACLAREN, M.D.

### II.—REGIONAL ILEITIS.

DR. W. L. GRAHAM.

Male. Italian. Age 26.

An Italian man, 26 years of age, who complained of abdominal pains, nausea and vomiting, weakness and alternating constipation and diarrhœa of one month's duration. Previous to this he had been in good health. The pains were crampy in nature and localized around the umbilicus. At the onset nausea and vomiting persisted for three days, then disappeared. He had several attacks at intervals of one day to a week. The pain was more severe when standing or walking and was relieved by lying down. On one occasion the vomitus was foul smelling and brownish in color, and on one occasion the stool were bright red but usually very dark. His appetite was good but he was afraid to eat because food aggravated the pain. He was admitted to the Hospital on April 2, 19398, previous to which he had been vomiting for two days. The past illnesses and family history were not of interest. He was a poorly nourished, pale man, who weighed 106 pounds. The abdomen was round in contour; there was no visible mass or peristalsis.

He was observed for several days and given supportive treatment. On April 5th an exploratory laparotomy was done and under anæsthesia a sausage-shaped mass was palpable in the right lower quadrant. On opening the abdomen there was a very congested thickened area of bowel involving about 8 inches of the terminal ileum and the caput of the cæcum. The bowel above this area was moderately dilated for three or four feet. I thought at this time that it probably would be wiser to do a jejunostomy rather than to attempt an immediate resection, and this was done through an upper right rectus incision.

The post-operative course was uneventful except that the patient continued to have crampy abdominal pain with distention and at times visible peristalsis. The jejunostomy continued to drain well. On April 26th, no progress having been made, the abdomen was reopened through the original right paramedian incision, the jejunostomy tube being left in place. The mass still appeared as previously described, with no reduction in the distention of the proximal bowel. A resection of the terminal 2½ feet of ileum and the cæcum was accomplished and an end-to-side ileocolostomy was done and the abdomen closed.

The post-operative course was uneventful. The jejunostomy tube was removed in one week and there was no discharge from this wound. The patient was discharged on June 4th.

The pathological report showed the appendix to be normal; the wall of the ileum was markedly thickened, was patchily covered with a fibrinous exudate, and on opening the bowel there was extensive ulceration of the mucosa and the ileocæcal valve was almost completely occluded by a somewhat proliferating type of ulceration. It did not appear neoplastic. The microscopic diagnosis was a hypertrophic tuberculosis of the ileum with inflammatory hyperplasia of the regional mesenteric glands.

*Remarks*: This boy of 25 was admitted to hospital with recurrent crampy pain associated with nausea and vomiting. A barium enema showed no pathology. A laparotomy revealed an infection of the terminal ileum and the cæcum which produced a high grade of obstruction. Lederer tells us that these cases should be resected immdiately. In this case the distention of the bowel extended up some two or three feet above the involved portion and in my judgment it was wiser to do a jejunostomy. The jejunostomy worked exceptionally well, but after three weeks the patient showed no improvement and on reopening the abdomen the distention was not relieved. It was gratifying that after five weeks the jejunostomy, which was done with the Witzel technique, did not leak. The pathological report was somewhat of a surprise to me in the diagnosis of a hypertrophic tuberculosis. Subsequent x-ray of the chest showed no pulmonary tuberculosis.

The only point one might make in the review of this case is that if one is dealing with a terminal ileitis that has gone on to practically a complete obstruction one must resect the involved portion. In a similar case I would not do a jejunostomy as a primary operation.

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## III.—RECONSTRUCTION OF THE COMMON DUCT

DR. W. L. GRAHAM.

The next case to be reported is one of reconstruction of the common duct after accidental severance during cholecystectomy.

The patient was an adult male, 52 years of age, who was admitted to my service on April 1, 1938. The patient complained of recurring pains in the right upper quadrant of four months' duration. He was jaundiced and had a general pruritus. The history, apart from the digestive disturbance due to gall bladder disease and the associated colic, was essentially negative. Following the attacks of pain his stools were clay colored. On admission his temperature was normal. The blood count was normal. Coagulation time was 4 minutes, bleeding time was 2½ minutes, and the Kahn was negative. His icterus index was 10. The patient was prepared by intravenous medication of saline and glucose and calcium gluconate. A cholecystectomy was performed on April 9, 1938. A right paramedian incision was made and the duodenum found to be adherent. The under surface of the liver and the gall bladder was not visible. The duodenum was dissected from the liver until the fundus of the gall bladder was visualized. There was no cholecystic duodenal fistula. After the upper inch of the gall bladder had been exposed the fundus was opened

on the anterior surface and a large stone removed. Palpation revealed a column of stones, each loculated. Dissection was continued and four or five stones removed, the incision in the gall bladder wall being continued. A small catheter was inserted in what appeared to be the cystic duct at the junction of the common duct. Twenty cc. of saline was injected without pressure and this catheter was sutured in place. On attempting to remove the gall bladder it was found that the common duct was completely severed. It was judged then that the catheter entered the distal portion of the severed common duct. The proximal end of the common duct was anastomosed to the duodenum over a rubber tube. One drain was inserted to Morrison's pouch. There was a small tear on the anterior surface of the liver which necessitated packing with a sponge and the abdomen was closed in layers. The patient had a rather stormy convalescence and the temperature and pulse remained elevated for several days. The icterus index was repeated on April 30th and June 10th and found normal. On April 20th and x-ray revealed the tube still *situ*. An x-ray repeated on May 26th showed that the tube had been passed. The patient was discharged on June 10th with his wound well healed, no evidence of jaundice and no discomfort.

*Remarks.*—This man, aged 52 years, has had several attacks of acute abdominal pain during the past year, associated with fever, jaundice and clay-coloured stools. The x-ray showed stones in the gall bladder. When the abdomen was opened the duodenum was found adherent to the liver, burying the gall bladder. On palpation it felt very much like a carcinomatous mass. I felt that this might be a case in which it would be wiser to do a partial cholecystectomy. The accidental severance of the common duct presented a new problem. However, the anastomosis which was done has worked very well and today he has no clinical jaundice and one hopes that there will be no constricture of the anastomosis at a future date. We shall be interested in a progress report later.

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## CLINICAL PATHOLOGICAL CASE REPORT: SYPHILITIC AORTITIS.

D. S. Munroe and S. A. Creighton.

Mr. S. U., Japanese, aged 42, millworker by trade, first seen on August 23rd, 1938, complaining of pain in the chest since April.

Born in Japan; came to Canada 21 years ago. Past history entirely negative except for a mild injury to right knee and some trouble with back some years ago. Married; one child alive and well. Family history irrelevant.

Through an interpreter the patient stated that he was in good health until April, 1938, when after lifting a heavy object he first felt pain in the chest, located under the upper part of the sternum, and felt only after exercise or exertion. He did not have pain on such movements as bending or turning; there was no tenderness at the site. The pain was brought on by a fairly constant amount of exertion and radiated down both arms to below the elbows. It lasted about five or six minutes on the average, and during the pain the patient was forced to stand still. Rarely, also, the pain radiated to the neck. He was not dyspnœic and did not complain of palpitation.

*Examination*: This revealed a fairly well nourished middle-aged Japanese showing slight pallor of the facies. Weight 126 lbs. Heart normal in size, and regular in rate and rhythm. There was an early diastolic murmur heard at the apex which tended to disappear after exercise. Pulse 66. B.P. 90/50 in both arms. Apart from slight diffuse hypertrophy of the prostate, examination was negative.

Tentative Diagnosis: Angina Pectoris.

Hgb. was 82%; Kahn test was positive. Urinalysis revealed nothing of significance. X-ray of heart showed slight left ventricular hypertrophy, with, however, no broadening of the base or of the aorta. Electrocardiogram showed low ST segment in leads 1, 2 and 3, and high in lead 4. T was inverted in leads 1, 2 and 3—definite evidence of coronary insufficiency.

On August 26th the patient was found dead in bed and was transferred to the Vancouver General Hospital for autopsy. No treatment had been given.

*Autopsy Examination*: Gross: Autopsy 24 hours postmortem. No excess of pericardial fluid; pulmonary artery free of embolus. The aorta presented no aneurysmal dilatation, but anteriorly was noted a rather hæmorrhagic soft area 2 cm. in diameter. The remainder of the aorta was fibrotic to palpation. Exploration revealed a typically puckered syphilitic aorta with a very slight outpouching of the intima at the above noted spot. There were some scattered atheromatous plaques over the intima. The coronary orifices were markedly narrowed, and the right almost obliterated by scar tissue, the point of a very fine probe not being passed. The arteries themselves were patent throughout, showing no narrowing, and only a minimal amount of sclerosis.

The heart weighed 420 gms. The myocardium throughout was quite flabby. The liver presented a slight nutmeg appearance.

*Microscopic*: All sections of ascending aorta, including the areas adjacent to the coronary orifices, showed a marked perivascular lymphocytic and plasma cell infiltration in both adventitia and media. Throughout was a great deal of hyalinized scar tissue, with puckering of the intima. Sections through the soft area revealed a marked degenerative process with some necrosis in the media and a granulation tissue healing process, the vascular channels of this having distinct mantles of lymphocytes and plasma cells. In the necrotic area were seen a moderate number of polymorphonuclear leucocytes. The intima over this area showed marked dimpling, but there was no break in the coat.

The coronaries themselves showed no evidence of any syphilitic process. There was a minimal amount of hyaline change in the wall.

The myocardium revealed some hypertrophy and degeneration but no infarcts, either recent or old.

The remainder of the sections revealed nothing relevant.

*Diagnosis*: Syphilitic aortitis with marked narrowing of coronary orifices and an accompanying moderate degree of arteriosclerosis.

*Comment*: Syphilitic aortitis results in a destruction of the media of the vessel by a mechanism not definitely known but probably beginning in an obliterative endarteritis involving the vasa vasorum. This necrosis strikes chiefly the elastic tissue and healing occurs by formation of fibrous tissue which contracts with resultant longitudinal wrinkling of the overlying intima—the characteristic gross, but relatively late, finding in the focus of the disease. The intima in addition shows marked fibrous thickening which later may become hyalinized. As a result of the loss of elastic tissue in the media, a similar process in the aortic commissure and the intimal changes, one of three may occur—aneurysmal formation, aortic regurgitation, or narrowing of one or more of the branches of the thoracic aorta, the most important of which are the coronary arteries. The last mentioned was the one present in the case reported above. The existence of the angina with definite and marked electrocardiographic changes is readily explained by the myocardial ischæmia due to the narrowed coronary mouths. It is interesting to note that while this man's symptoms had existed for five months, he had been able to work until one week prior to consultation.

Angina pectoris, particularly in a middle-aged man, must always raise the question of syphilitic aortitis. The patient's history is frequently without a clue and physical examination may reveal nothing abnormal in early cases or in cases wherein neither aortic regurgitation nor dilatation of the vessel is present. The changes in the electrocardiogram are by no means specific and until dilatation of the aorta has occurred the x-ray is likely to be normal. Blood flocculation tests are, however, positive in almost 100% of cases and consequently should be performed routinely in all patients with angina.

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## STATE OF PHYSICIANS IN SPAIN

Even in the present day the fee of a physician is twopence from the tradesman, tenpence from the man of fashion, and nothing from the poor. Some of the noble families agree with the physician by the year, paying him annually fourscore reals, that is, sixteen shillings, for his attendance on them and their families. They all acknowledge that the monks are more liberal than people of the first fashion, especially if confidence and secrecy are needful.

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## CUSTOMS AND SALARIES OF PHYSICIANS BEFORE THE CHRISTIAN ERA

Boerhaave takes notice that, before there were any professed physicians, it was the custom among the ancient Egyptians, when anyone was sick, to enquire of neighbours and passengers if they knew any proper remedies for the patient. But ever since the study of physic has been a profession, it has been both honourable and lucrative. The customary yearly salary which princes paid their physicians, about the time of Christ's birth, was 250 sestertia, or above 2018£ sterling. Stertenius complained that he had only a salary of 500 sestertia or £4036 9s. 2d. sterling, when he had, by his private practice, 600 sestertia, or £4843 15s.

# Paediatric Section

## ROUND TABLE CONFERENCE ON PREMATURITY

### INTRODUCTORY REMARKS

Dr. A. Howard Spohn.

The treatment of prematurity depends, of course, chiefly on keeping up bodily heat and the ingestion of a sufficient quantity of easily assimilable food, but other adjuncts often adjust the balance so that life is spared.

Atelectasis is a much more frequent cause of death in early infancy than is generally supposed, and probably every premature infant has some degree of atelectasis.

The continuous inhalation of oxygen in a tent or oxygen room is essential in the treatment of all atelactic infants, especially the premature baby. The benefits of this treatment are so great that one should advocate oxygen inhalation as a routine measure in every premature child. The beneficial effect of oxygen administration in mild cases of cerebral hæmorrhage should be more widely appreciated.

The use of theelin injections in prematurity seems to be based on solid scientific grounds. Nature is a great economist and the presence of the pregnancy hormone in the maternal blood has a very definite purpose. The sudden stoppage of this maternal supply with birth can only be compensated by the administration of the hormone in some way. One need only mention the administration of tablets by mouth in order to condemn the procedure. Prematurity demands prompt measures, and there is no justification for using the least efficient of several methods. Administration of the hormone by injections of aqueous solutions is also not advisable, as the injections of oily solutions is much more efficient. The first injection should be given a few hours after birth and should be continued during the first 10 days of life. The average dosage would be 1000 to 2000 rat units in 1 cc. of oil every second or third day during the first two weeks of life. If the oily solution is given in the above dosage there can be an interval of one or two days between injections. The administration of the hormone (œstrin, theelin, etc.) appears to accelerate the depressed metabolism of the premature and enable it to gain weight more satisfactorily and be less drowsy. Some investigations have been made in which results were rather uncertain, but the dosage did not appear to be large enough and the method of administration varied.

*Thyroid Therapy.* Within fairly recent times small doses of thyroid have been given to prematures with beneficial effect. In such cases one employs the thyroid as a pharmacodynamic agency, not as a hormone to supply an individual deficiency. It has been shown that a premature baby's thyroid is usually active. More investigation is required, but sufficient data has accumulated to warrant the consideration of this type of therapy in prematurity. The expected result is a hastened development rather than an increase in growth. As far back as twenty-five years ago it was demonstrated that the feeding of thyroid to tadpoles hastened their development into frogs but did not promote growth. An influence on respiration, digestion, etc., might be expected. Moncrieff, in the *Archives of Diseases of Children*, March, 1937, reported an investigation on 62 premature babies (all under 5 lbs.) who were given one-twentieth grain per pound of body weight. The babies were easier to keep warm but there was no apparent advantage in temperature readings. The mortality of the thyroid-fed babies was only one-third of control babies, and this may have great significance.

## FEEDING

DR.R. P. KINSMAN

I wish merely to stress a few important points in the feeding of premature infants, over which controversy sometimes arises.

For the first twelve hours the infant is better without food; then for thirty-six hours alternate feedings of milk and water every two hours. I believe most premature babies do well and can be made to gain sufficiently if fed in this way—milk every four hours and water every four hours. It is important to remember that 35 calories per kilo. is necessary to maintain life.

*Food*. The importance of mother's milk as food for the premature infant cannot be too strongly emphasized. Julian Hess says: "Human milk is essential to a low mortality." Greenlee says: "Proper nourishment of the premature infant depends on the supply of mother's milk." Next choice of food is a mixture of mother's milk with powdered, evaporated, or lactic acid milk.

*Manner of Feeding*: (1) Some premature babies are able to nurse at the breast; (2) If the infant becomes fatigued from nursing at the breast, a medicine dropper may be used, or a Brick feeder, or the baby may nurse from a bottle; (3) if unable to swallow well, the child should be fed by gavage. This feeding should not be given oftener that every four hours, and by an *experienced* nurse only. Small quantities of water may be given between feedings with a medicine dropper.

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## CAUSES OF PREMATURITY

DR. E. S. JAMES

*Definition*: In obstetrics a mature infant is one born at term, that is, at the end of from 270 to 290 days, irrespective of the development of the baby. Hess classifies all infants, whether they are born before or at term, or even past term, as immature infants if the birth weight is below 2500 gm. (5½ lb.).

Premature infants form the major proportion of immature infants, and may therefore be defined as immature infants born before 270 days of gestation have elapsed.

*Causes of prematurity*: Premature labour may be caused by constitutional disease in the mother, by local uterine pathology, or by disease of the placenta.

The more common constitutional causes of premature labour are the toxæmias of late pregnancy, namely, chronic nephritis and eclampsia. Syphilis may produce an abortion, miscarriage, or premature birth, depending upon the length of time the mother has had the infection. Any severe acute infection, such as pneumonia, may be a cause. Vitamin E deficiency is usually described as producing an abortion or early miscarriage, but could be the cause of prematurity if the deficiency were limited to late pregnancy, or if it were added to some other factor.

The most important local causes in the uterus are uterine tumours, such as fibroids and carcinomata of the body of the uterus. Other causes are placenta prævia, hydramnios, and twin pregnancies. Infarction of the placenta may cause premature labour, possibly by being a factor in the development of toxæmia in the mother.

Prematurity occurring when the mother is apparently healthy may be explained on a physiologic basis, according to Schiller. Labour is produced at the usual time by the relatice increase in the blood of the hormone œstrin, so that it predominates over the luteal hormone progesterone. If the increased production of œstrin were to occur earlier it would induce an earlier labour.

Duyzings of Rotterdam states that the age of the mother is a factor in producing prematurity. Analyzing the histories of 1900 prematures over a thirty-year period, he found that young primiparæ and women over 35 years of age had a greater proportion of premature births than other age groups.

* * * *

## CLINICAL PICTURE OF PREMATURE BABY

### Dr. J. H. B. Grant

A premature baby is not only a small baby, it is an undeveloped baby. It is not ready to be born or to live under extra-uterine conditions. It is intended to float in warm water of a constant temperature, but it has, instead, to be handled and exposed in air to varying temperatures. Its circulation is compelled to change from the fœtal to the adult form weeks or months before it is ready for the change. It is compelled to breathe air into lungs only partially ready for use, with an undeveloped thorax and respiratory muscles. It is obliged to use digestive organs only partially completed, instead of obtaining nourishment, already prepared, through the circulation. In short, it has to depend for its life on organs only partially ready to perform their functions.

External examination shows us: A small, thin, limp body; the skin is very soft, varying in colour, maybe red, maybe blue, or again almost transparent; the cry is feeble, often a while resembling the mew of a kitten; the breathing is irregular, shallow, sometimes barely perceptible for seconds at a time; the movements of the extremities infrequent and never vigorous; the muscles of the mouth, cheeks and tongue may lack the necessary force for sucking, so that this is practically impossible, and even swallowing is slow, difficult and prolonged; the body temperature fluctuates easily and widely, and without artificial heat will be subnormal.

Examination of many premature babies at autopsy has shown the following changes in some of the vital organs:

(a) *The Lungs*: They contain comparatively little alveolar structure and, on account of the loose attachment of the blood vessels, are very prone to congestion and inflammation. Out of 79 premature babies autopsied by Dr. J. H. Hess, 46 showed atelectasis and 23 showed broncho-pneumonia.

(b) *The Heart*: Poor development of the muscles, which in life caused irregular, weak pulse. Hess reports that 29 of 79 autopsied showed patent foramen ovale and 29 showed patent ductus arteriosus.

(c) *Skull and Brain*: The fontanelles and sutures are wide, the bones abnormally movable. There is very frequent tearing of the tentorium and rupture of the blood vessels, with resultant hœmorrhages into various parts of the brain. Hess found that 49% of his cases, whose skull caps were removed at autopsy, showed intracranial hœmorrhages.

(d) *The Digestive Organs*: All the functions of digestion are present in premature babies but are often feeble; the capacity for sugar digestion is more developed than those for fat, starch and proteins.

(e) *The Skin*: The sweat glands are not developed at all and the infant is thus deprived of one of the most important ways of losing heat. High external temperatures are therefore dangerous and may comparatively easily cause a "heat-stroke." On the other hand, they have practically no fat tissue to conserve heat and are very subject to "chilling" on exposure to cold or drafts. The skin is very subject to infection.

Malformation of one or several parts is more frequent in premature infants than in normal babies.

*Prognosis*: The prognosis in premature babies depends:

(1) On the degree of prematurity—rarely do they survive if born before the 27th or 28th week of pregnancy. Very few survive if weight at birth is under 2 lbs. or length of body under 13 inches. The closer to term and the larger and stronger the baby is, the better the chance of survival.

(2) On the care of the baby after birth—feeding and the prevention of infection.

# TWO CASES OF CRETINISM AND SOME GENERAL OBSERVATIONS ON THE THYROID GLAND

**From the Pædiatric Department of St. Paul's Hospital, Vancouver, B. C.**

A. Howard Spohn, M.D.

I wish to present two very interesting cases of extreme hypothyroidism that have been under my personal observation for a number of years. Both might be classed as cretins; both have been saved from states which would have approached idiocy, by continuous thyroid feeding over a period of years, and both have developed cancerous growths—one a carcinoma of the thyroid and the other a carcoma of the kidney. These patients were operated upon in St. Paul's Hospital—the thyroid carcinoma case twelve months ago, the kidney case six months ago. Both have received deep x-ray therapy besides operation, and both children are at present enjoying good health with as yet no determinable evidence of secondary invasion from the primary foci. Only a short resumé of each case will be given, as each one is of sufficient interest to warrant a fairly extensive and particular report when a greater time has elapsed since the operation.

Case 1.—M. L., female: Cretinism. Case seen first in August, 1932. Family history negative. Parents intelligent; two other children living and well. Residence, Vancouver Island. On first examination there was no difficulty in diagnosing this child as an extreme case of cretinism. The child weighed 11 pounds. There was a profuse growth of hair on the scalp and a good deal of hair on the back. The neck was short. The child could not sit up, the tongue protruded, the voice was deep and coarse, and the general appearance was almost that of a little animal. The eyes did not resemble those of the Mongolian Idiot. There was also a history of peculiar breathing spasms. The patient was given thyroid gr. ¼ (B. & W.) twice a day for eight days and then returned for examination. Even with so small a dose and over such a short period of time the improvement was remarkable, and in passing through my office I did not at first recognize the child. This brings up the point that it is always wise when dealing with infants and children to start with a small dosage and make frequent examinations. I have known treatment to be discontinued by parents because the first dosage was too large and caused disturbances. I have several cases in which cretins were deprived of treatment for several years on this account. The patient has, since 1932, been supplied with thyroid through the courtesy of the Burroughs & Wellcome Company, and all observations have been with the one preparation. From a peculiar-looking little elf she developed into quite a handsome attractive child, with a well-developed body. She has been, and is, slow and deliberate in her talk, but her answers are accurate and her formation of ideas and her memory for past events is almost normal. She is obedient, responsive, and observant of things occurring in her presence; she plays well and happily with other children, and no one would pick her out as a cretin without obtaining her past history. If she is deprived of thyroid for four to five days signs of deterioration are quite apparent.

In February, 1938, she came to Vancouver on account of a large mass, estimated at about 6¾"x6", on the right side of her abdomen. The mother states that she was conscious of the mass for only six to eight weeks and that the increase in size was very rapid. X-ray examination indicated an extra-renal tumour. She was given a full course of deep X-ray therapy at St. Paul's Hospital, was then discharged, and returned for surgical treatment. On May 16th, 1938, Dr. Earle Hall removed the tumour, and after a fairly stormy convalescence she was discharged in June, 1938. On her last examination, October 3rd, 1938, she was in good health; her hæmoglobin 85%, R.B.C. 4,000,000, and there was no evidence of recurrence. In May, 1938, X-ray pictures of the chest and skull were negative.

Case II.—R. S., female: Cretinism. First seen in May, 1926, when the child was 7 months old. Family history negative. Both parents in good health and above average intelligence. Residence, Ashcroft, B. C. There are no other children in the family. Physical examination showed an infant of 7 months, weighing 12 pounds, with an unintelligent expression, a dry skin, flaccid muscles, poor hand grip, protuberant abdomen and a large umbilical hernia. Although underweight there was evidence of myxœdema and the hands were square and pudgy with wrinkled œdematous wrists. The pupils reacted to light but the eyes followed objects very slowly; the eyes were not almond shaped and the longitudinal eye slit did not incline towards the inner canthus as is characteristic in Mongolian idiocy. There was a slight systolic murmur. In spite of the enlarged heart the circulation did not give much evidence of embarrassment except for cold extremities. This child was placed on thyroid therapy, but for several reasons contact was not maintained and there was an interval of ten years before the patient came to Vancouver. During this interval thyroid therapy was maintained, but not in sufficient dosage, so that the physical and mental development did not attain to as great a degree as it might have. In January, 1936, the child was unintelligent in appearance, but the answers to questions and other tests showed her mental age to be only about two years below normal. At this time a cyst about the size of a small hen's egg was present on the right lobe of the thyroid. The heart was still enlarged. The thyroid dose was increased and she was asked to report in a few months. She did not return to Vancouver until August, 1937, and I did not see her as I was away. At this time the cyst had increased in size and another cyst had appeared in the left lobe, and the mother had consulted an internist and surgeon in regard to removal of the thyroid. At this time her physical condition and the enlarged heart caused the surgeon to advise against operation at that particular time. In December, 1937, the patient returned to Vancouver on account of pressure symptoms from the rapidly growing cysts. The right cyst was about as large as a Japanese orange and the left cyst slightly smaller. There was a great deal of dyspnœa, especially on exercise, and it was evident that the patient could not go along much farther without an operation. She was put to bed for ten days, an electrocardiograph taken showed only right axis deviation, and Dr. Lennie removed the thyroid on December 7th, 1938. The child stood the operation well and only a very small amount of tissue was left. At this time there was some doubt on section about malignancy, and X-ray treatment was delayed for some weeks. The stained sections confirmed the tentative diagnosis of carcinoma, and on account of the infrequency of carcinoma of the thyroid the pathologist submitted the sections to two other well-known pathologists who have concurred in his diagnosis. At one time while in hospital, during convalescence, thyroid was withheld for a period of only four days before very definite symptoms of hypothyroidism, such as slurring speech, mental dullness, appeared. A recent examination 11 months after operation shows the patient enjoying better health than at any time in her life. She still slurs in her speech but cerebrates well, is accurate as any child of her age in answering ordinary questions, assists her mother in a grocery store on occasions, is attending regular school, reads quite well, plays well with children of her own age, and is obedient, conscientious and kind. Her general appearance is not as favorable as it might be on account of a very serious defect of vision in one eye.

## General Observations.

The various conditions arising from dysfunction of the thyroid are of especial interest in this region and therefore it will be permissible on this occasion to review a few of the many features that present themselves in a study of the thyroid gland..

The thyroid, while primarily belonging to the alimentary tract and taking part in digestion, has, through metamorphoses, lost its connection with the alimentary tract and developed a new function, that is, the role of digestion has been substituted for a role in growth and metabolism, and it has become a gland not of external, but of internal secretion.

## Growth of the Thyroid.

Statistical studies on the growth of the thyroid show that it is relatively more rapid during the periods of lighter body weight, that is, at the earlier ages. The human thyroid attains its largest size just prior to puberty, and as the size of an organ is related to its function, one can assume that the greatest load on the thyroid is normally about the time

of puberty. The follicles form the primary or secretory units of the gland. The cells of the follicles are the makers of hormone and their lumina form the warehouse for storage.

The physiologic study of the hormone dates back sixty-seven years, when Fagge, in 1871, started his work in cretins. The various activities of the hormone may be classified as

1. Calorigenic activity (metabolism estimate);
2. Action of the distribution of body water salts and colloid;
3. Action on growth and differentiation of tissue;
4. Action on carbohydrate metabolism;
5. Action on the nervous system;
6. Action on the muscular system;
7. Action on the circulatory system;
8. Action on other endocrines.

Only a few of the various activities will be mentioned in this discussion.

*Action upon Growth.*—Deprivation of thyroid in man or animals leads to dwarfism, cretinism, juvenile undevelopment, etc. Derangement in various tissues such as skin, hair, nails, etc., is seen in athyreosis. All such structures grow more slowly in the absence of thyroid and the rate of growth is speeded up when thyroid is given.

In children, deprivation leads to serious derangements of the osseous development. In athyreosis there is delay in the appearance of bone nuclei as well as in epiphyseal union. The X-ray of such regions as the carpal areas furnish an excellent aid in the diagnosis and progress of thyroid deficiencies. No better test than the roentgenogram is known in the diagnosis and test of treatment of juvenile myxœdema. It is as important in this condition as blood counts are in anæmia. One must remember the changes of rickets and not confuse the two conditions in studying roentgenograms. Imperfect development of wrist bones is present in about 25% of rickets, in some types of dwarfism, in hypophyseal infantilism and a few other diseases. The determination of the bone age of a child suspected of thyroid deficiency is most important.

The diuretic action of the thyroid hormone is one of the earliest and best known actions and is made use of therapeutically in obesity and other conditions. This action takes place not only in hypothyroid individuals but also for a time in normal individuals. In myxœdema there is an "extroduction" of protein in the tissues which appears as swellings in legs, abdomen, supra-clavicular regions, etc.

*Action in Carbohydrate Metabolism.*—Coggeshall and Green, 1933, showed that thyroid feeding depleted the liver of glycogen, even though the animals had been on a good carbohydrate diet. Animals which had been merely starved could rapidly replace lost liver glycogen if given glucose by mouth or intraperitoneally—those which received thyroid were unable to do so. The conclusion was that thyroxine not only depleted the liver of glycogen, but also injured it so that it was unable to store glycogen. The degree of inability to store glycogen is in proportion to the amount of thyroid given.

*Action on the Nervous System.*—Excess of thyroid hormone increases nervous irritability and reaction time. Scarcity of thyroid decreases nervous reactions. The hypothyroid lives on a low emotional plane, cerebrates slowly and reacts to stimuli sluggishly. The hyperthyroid has heightened emotions, emotional instability, greatly increased irritability and sometimes gross derangements of cerebration. The mild hyperthyroid may be more active, more efficient, more emotionally and intellectually stimulating until fatigue or toxicity finally intervenes. The attractive, sparkling eye of young females often denotes hyperthyroidism.

*Action on the Circulatory System.*—An increase in metabolism brings an incerased mass movement of blood due to increased heart action, peripheral dilatation and increased stroke volume of the heart. Zondeck, 1935, notes a shift in the oxygen dissociation curve of the blood which facilitates delivery of oxygen to the tissues as metabolism increases. Thyroxine increases the demand for oxygen but also provides the wherewithal for this demand to be satisfied.

*Action on the Endocrines.*—Thyroxine in a dilution as high as 1 in 5000 will cause increased acceleration of metamorphosis of tadpoles. Eggs from non-productive hens in a goitre belt may proceed to hatching if dipped at intervals during the hatching period in mild iodine solutions. Fertility may result in previously non-fertile animals from thyroid

feeding seen in dogs, colts, calves and humans. Keith's observations on animals in Pemberton Meadows furnished some of the most interesting data that have appeared in medical literature. Other substances than iodine will accelerate metamorphoses in tadpoles, however, but it is taken as proven that hormones do work in very high dilutions. They are, therefore, according to Zondeck, in the nature of "catalysts."

Thyroxine accelerates the metabolism of all cells in the body, but other agencies as adrenalin and dinitrophenol do the same, but in addition to being a catalytic agent, thyroxine affects the life of the cell in every major aspect of its existence, that is, its physico-chemical state, its irritability, its rate of maturation, its rate of mitosis, that is, the length of life of the cell.

The body uses iodine only in the manufacturing of thyroid hormone and any excess is promptly elimiated. We should, of course, distinguish between the demands for hormone formation and the use of iodine for its pharmacodynamic action. In the latter case the amounts used are much greater. Iodine may be used in a therapeutic sense for such purposes as the destruction of growth of certain micro-organisms such as treponema pallidum, or actinomyces, and also as a depressor or as an expectorant, etc. Iodine used as a drug circulates in the body as an inorganic salt, but plays no part in metabolism except up to the capacity of the thyroid to store it. Its presence in the body has no effect on the function of the thyroid except to stabilize colloid storage. The iodine content of the blood is made up of passive iodine and also of circulating hormone. The passive circulating iodine fluctuates with iodine intake—the circulating hormone, iodine, is related solely to the function of the thyroid.

The usual rate of iodine absorption is through the alimentary canal, but it may also be absorbed through the skin, the lungs, or any mucous membrane. The rate of absorption depends on the solubility of the compound in which the iodine occurs. Thyroxine polypeptide is almost wholly absorbed; thyroxine is absorbed to between 10 to 20%.

### Thyreosis in Children.

Thyroxine increases the process of breaking up of fat and carbohydrates as well as the proteins. With hypothyreotic conditions, on the other hand, the metabolism is, on the whole, diminished. The thyroid hormone furthers growth and the differentiation of the organs has been shown in experiments on animals. The function of thyroxin is, then, of special interest in the growing child.

With cretins and hypothyroid cases of marked degree the treatment must go on during life. However, and especially in goitre belts, there are many cases of mild thyroid dysfunction which appear before and during puberty when the demands on metabolism are so great. These mild cases are frequently overlooked, and in young girls amenorrhœa is one of the prominent symptoms. These are the cases which will respond so well and often with great rapidity and with small doses. Remember that normally there occurs at puberty an increase in thyroid function and many cases of dysfunction (undescended testicle, etc.) will correct themselves successfully without treatment. Surgical treatment for undescended testicle is rarely necessary and is usually very bad treatment.

### Congenital Goitre.

Congenital goitre is a partial or diffuse hard enlargement of the gland of the newborn and may be associated with iodine deficiency in the mother. Only local symptoms from various degrees of obstruction of the respiratory tract may be present. The mortality may be as high as 60%. Pressure on the trachea which is still soft and catarrh of the air passages lead to tracheal stridor or obstruction. The newly born child is very sensitive to iodine and may react with toxic symptoms (diarrhœa, weight loss, etc.) with very small doses. It is often best to start with minute doses of .1 mgm. and repeat in several days. Intubation and tracheotomy has been necessary.

### Juvenile Myxoedema.

The picture of myxœdema depends on the age, the time of onset and the degree of thyroid deficiency. Infections often play an important part in the production of myxœdema in children previously showing no thyroid dysfunction. Hyperthyroidism resulting from no or insufficient thyroid secretion in children manifests itself as athyreotic cretinism, endemic cretinism, or myxœdema. Athyreotic cretinism may be untreated sometimes, because children with retarded growth are diagnosed incorrectly as suffering from pituitary

dysfunction, rickets, achondroplasia or chondrodystrophy. Basal metabolic rates in children under 6 years of age are unsatisfactory and one should not place too much reliance on the readings. However, accurate readings as low as 25 or 30 are seen. The X-ray of the wrist is a much more satisfactory guide to thyroid sufficiency in children and an estimation of blood cholesterol is also an extremely important test. The quantity may range normally from 110 mg. per cent to 200 mg. per cent. The most usual normal is 190 mg. per cent. In myxœdema values as high as 250 to 700 have been obtained from partial or complete failure of development of a functioning thyroid in intra-uterine life. In athyreotic cretinism the parents are normal and the individual does not suffer from lack of thyroid until after birth.

Endemic cretinism is a congenital hypothyroid state in a child in which one or both parents suffer from insufficiency of thyroid secretion. Such cases occur chiefly in endemic goitre districts and there is usually marked mental backwardness in such cases. These cases show the effect of deprivation of thyroid during intra-uterine life and may be diagnosed early, while in an athyreotic cretin some weeks elapse before diagnosis is possible. It will be seen, therefore, that many points must be considered carefully in studying the various conditions of thyroid deficiency.


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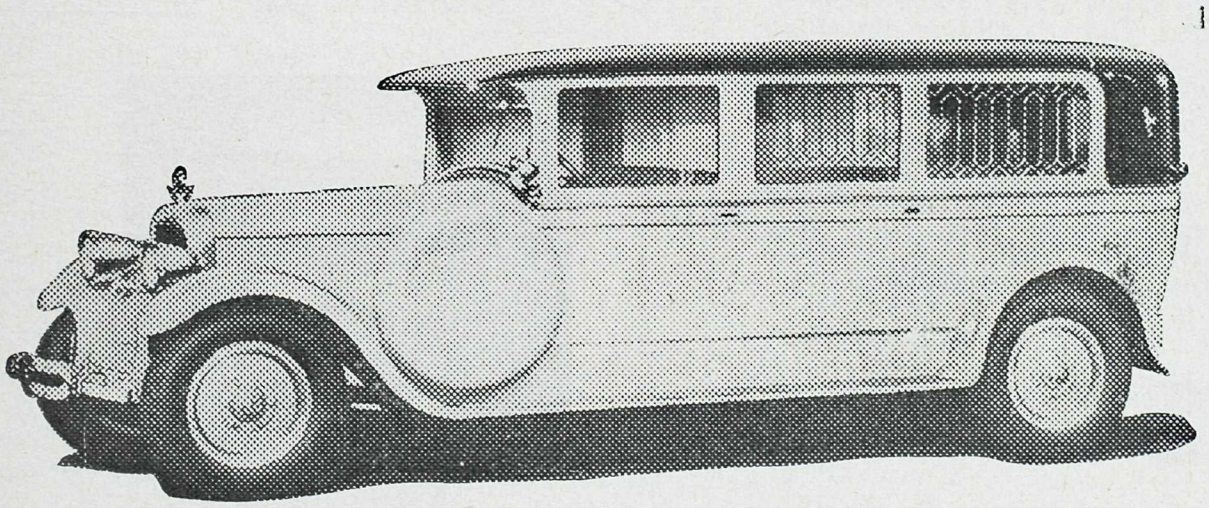

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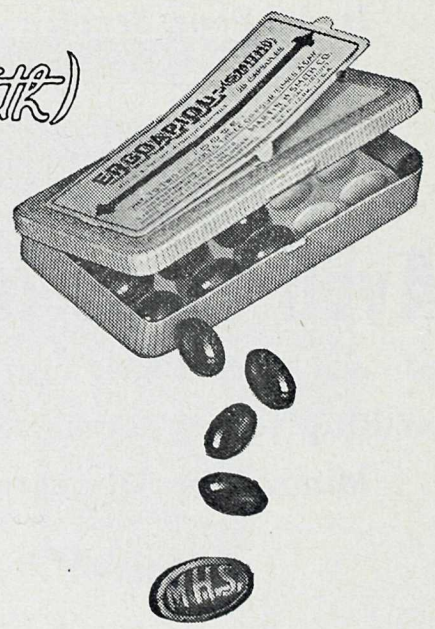


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**Dosage:** 1 to 2 capsules 3 or 4 times daily. Supplied in packages of 20.

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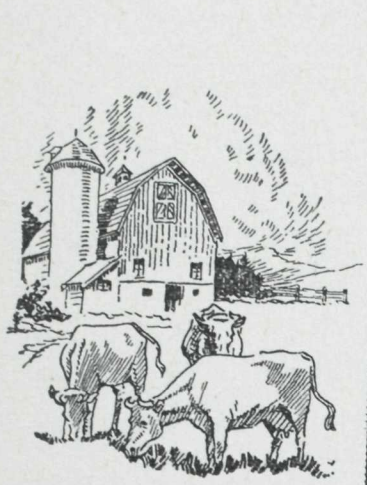

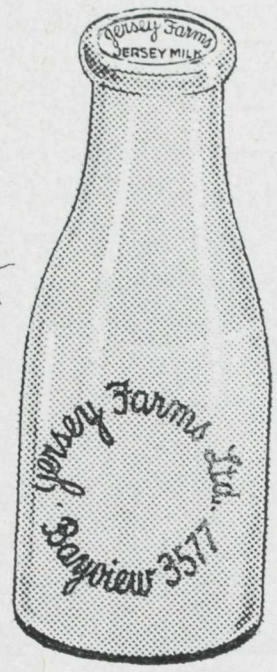


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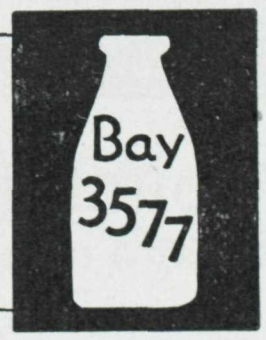

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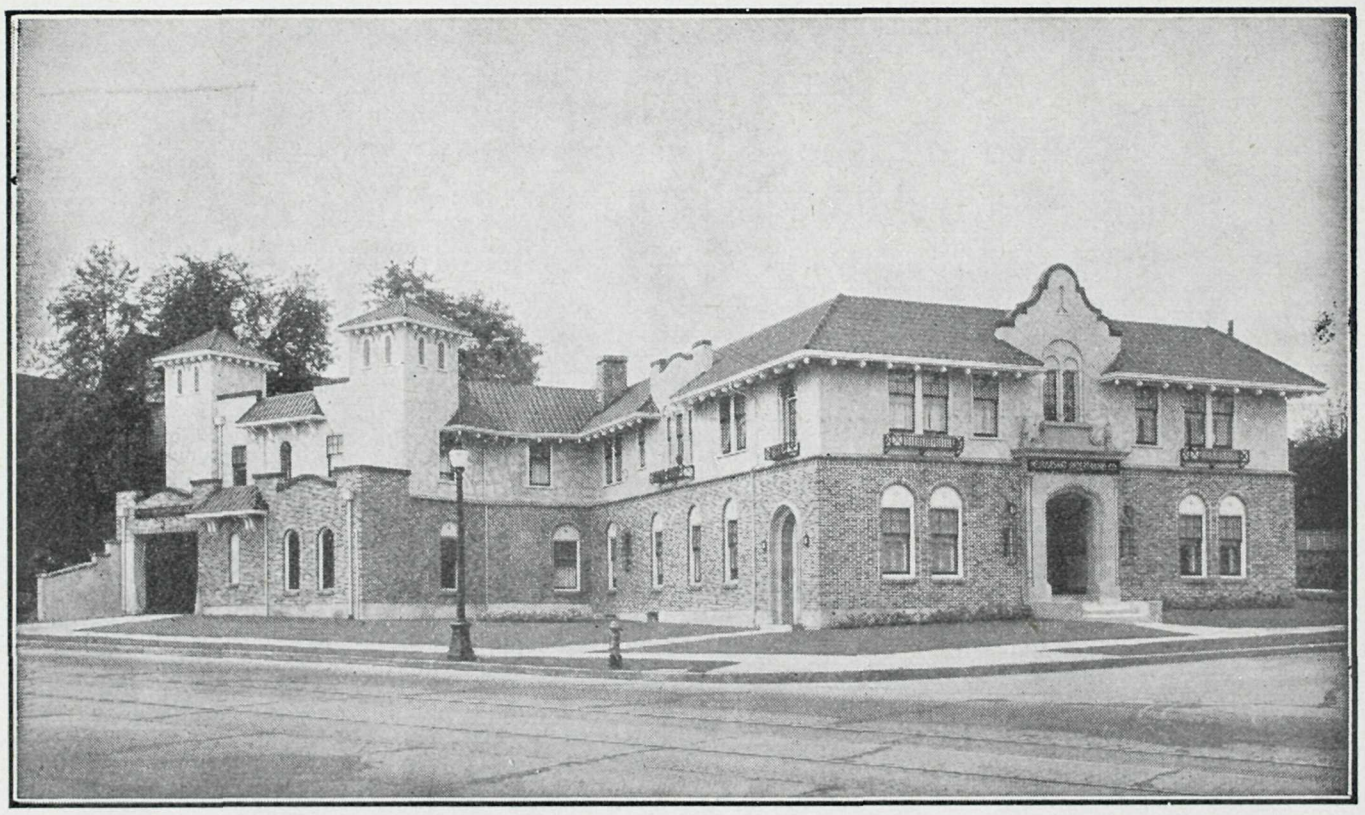

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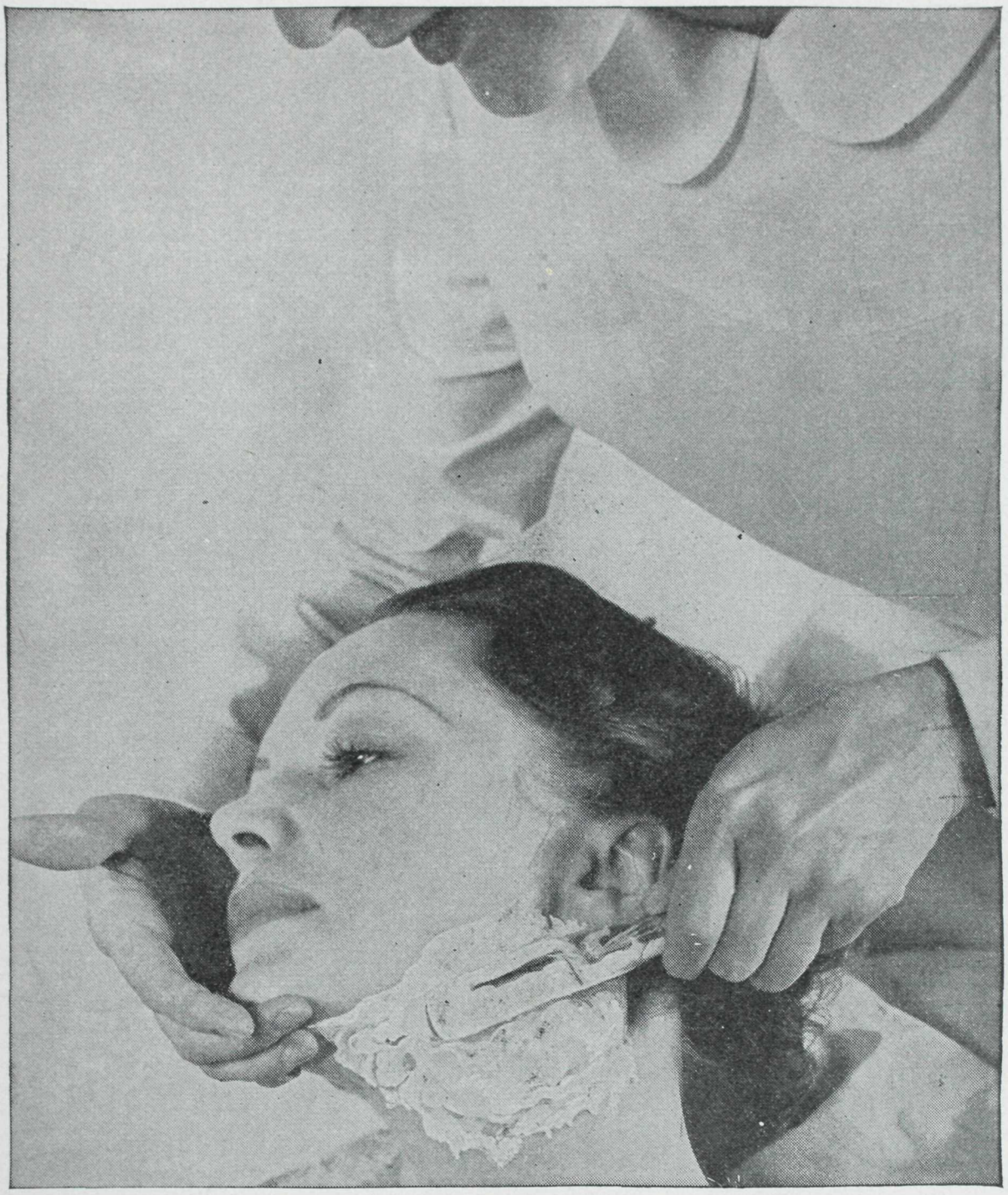

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*A bambino from the Foundling Hospital, Florence, Italy,—A. della Robbia*

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"This is observed to happen more in the neighborhood of Rome than in other places," he wrote. "If no one oversees the infant's movements, his limbs do in the generality of cases become twisted. . . . Hence, when he first begins to sit he must be propped by swathings of bandages. . . ." Hundreds of years later swaddling was still prevalent in Italy, as attested by the sculptures of the della Robbias and their contemporaries. For infants who were strong Glisson suggested placing "Leaden Shooes" on their feet and suspending them with swaddling bands in mid-air.

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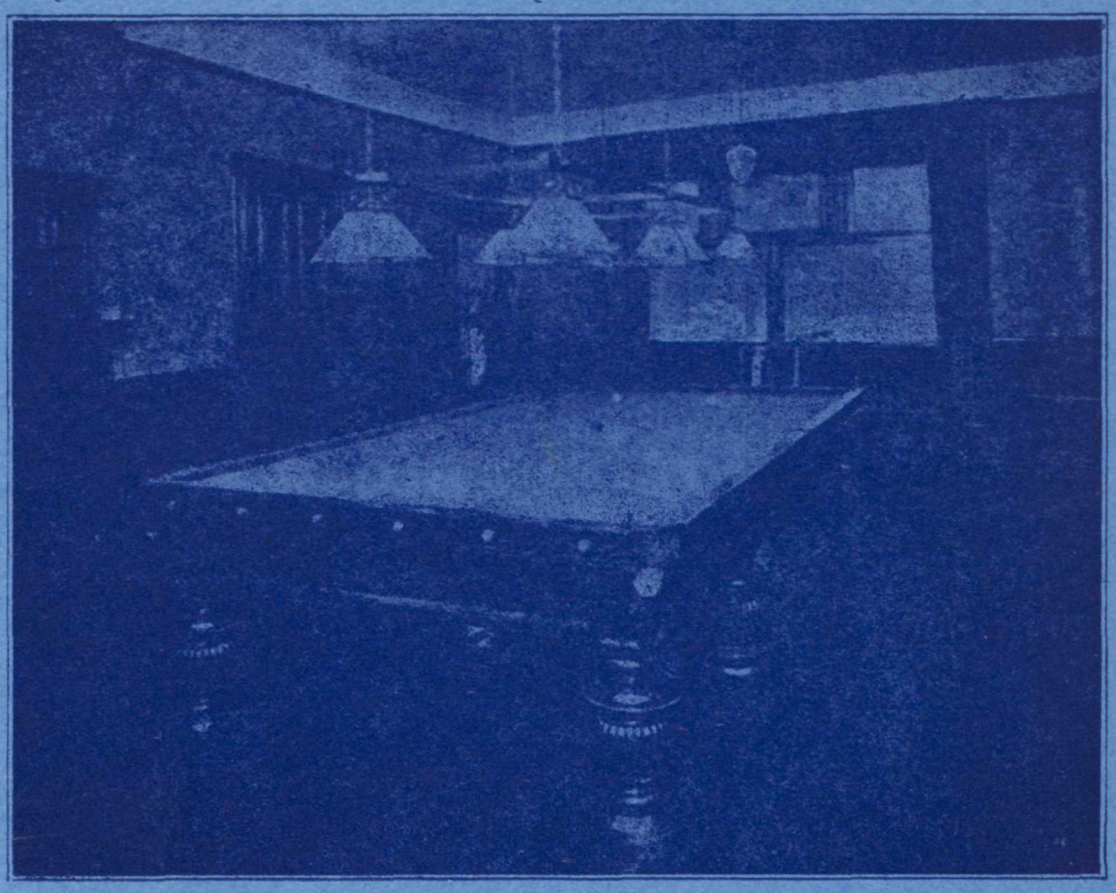

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