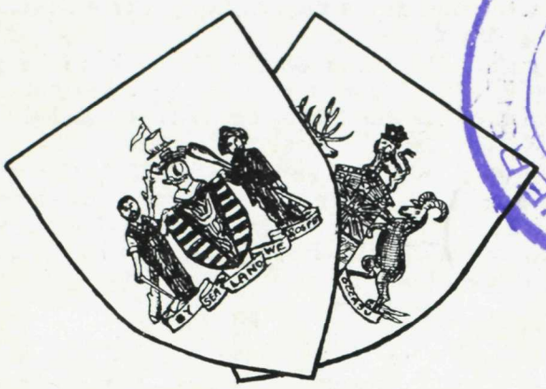
THE BULLETIN



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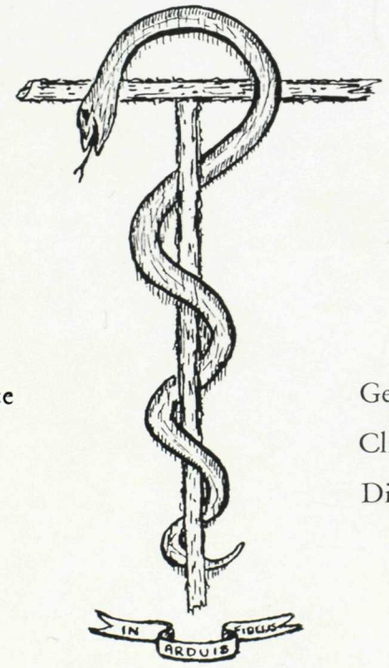

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ANNUAL MEETING
CANADIAN MEDICAL ASSOCIATION
JUNE 22—26, 1931
VANCOUVER, B. C.

Vol. VII NOVEMBER, 1930 No. 2

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THE RHEUMATIC TYPE

Regular and adequate bowel elimination constitutes an essential part of treatment in the majority of patients suffering from the arthritic or gouty diathesis.

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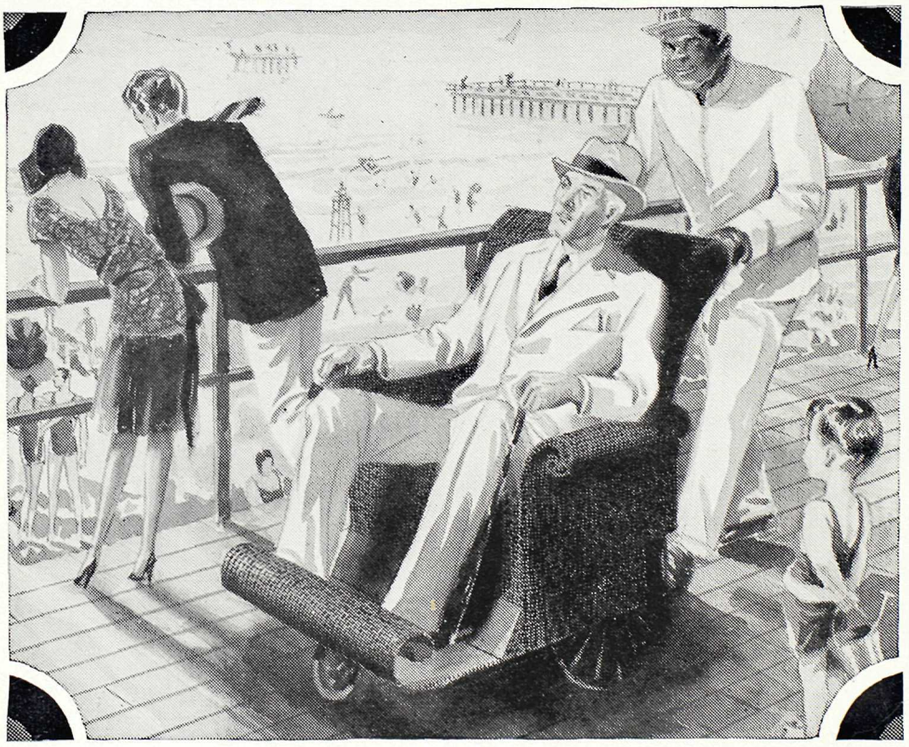

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

Published Monthly By McBeath-Campbell Ltd., 326 West Pender St. under the Auspices of the Vancouver Medical Association in the Interests of the Medical Profession.

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203 Medical and Dental Building, Georgia Street, Vancouver, B. C.

Editorial Board:
DR. J. M. PEARSON
DR. J. H. MACDERMOT DR. D. E. H. CLEVELAND
All communications to be addressed to the Editor at the above address.

Vol. VII. NOVEMBER, 1930 No. 2

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VANCOUVER MEDICAL ASSOCIATION

Founded 1898 Incorporated 1906

PROGRAMME OF THE 33rd ANNUAL SESSION

GENERAL MEETINGS will be held on the first Tuesday and CLINICAL MEETINGS on the third Tuesday of the month at 8 p.m. Place of meeting will appear on the Agenda.

1930

November 4th—General Meeting:
Speakers—
Dr. J. G. McKay
Dr. A. L. Crease
} "Early Recognition and treatment of the Psychoses."

November 18th—Clinical Meeting.

December 2nd—General Meeting:
Speakers—Dr. E. H. Saunders; "Early Recognition of Acute Mastoiditis."
Dr. N. E. MacDougall; "Treatment of the Comon Cold."

December 16th—Clinical Meeting.

* * *

VANCOUVER HEALTH DEPARTMENT

STATISTICS, SEPTEMBER, 1930

Total Population (estimated		240,421
Asiatic Population (estimated)		9,335
	Rate Per 1,000	of Population
Total Deaths	169	8.5
Asiatic Deaths	15	19.6
Deaths—Residents only	146	7.4
Birth Registrations	415	21.0
Male 214		
Female 201		
INFANTILE MORTALITY—		
Deaths under one year of age	7	
Death Rate—per 1,000 Births	16.9	
Stillbirths (not included in above)	6	

CASES OF CONTAGIOUS DISEASES REPORTED IN CITY

	August, 1930		September, 1930		October 1 to 15, 1930	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	13	0	21	0	21	0
Diphtheria	2	0	20	1	9	0
Chicken Pox	5	0	3	0	15	0
Measles	1	0	0	0	1	0
Mumps	3	0	3	0	3	0
Whooping-cough	13	1	7	0	4	0
Typhoid Fever	3	0	0	0	4	1
Paratyphoid	0	0	0	0	0	0
Tuberculosis	14	12	19	17	9	—
Poliomyelitis	0	0	7	1	4	1
Meningococcus Meningitis	0	0	1	1	0	0
Erysipelas	2	0	4	0	3	0

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EDITOR'S PAGE

"They that dig foundations deep
Fit for realms to rise upon
Little honour do they reap
Of their generation,
  Any more than mountains gain
  Stature till we reach the plain."

A few weeks ago our readers may have noticed in the daily press a brief item to the effect that Dr. F. T. Underhill, the Medical Health Officer of Vancouver, will be superannuated at the end of this year, and so will retire from a position which he has held for some thirty years. During this time he has given himself, body and soul, to the service of the city, and of the excellence and worth of his work, those of us who know him can bear true witness.

We feel that it is not enough that he should be allowed to go from the post that he has so ably and conscientiously filled, without a word of gratitude and regret. In this connection, we should like to acknowledge the editorial in the Vancouver Daily Province, which paid him a well-deserved tribute, in a most gracious way. But apart from this, very little notice seems to have been taken by anyone of the fact that Vancouver is losing one of its ablest and most faithful servants—a man who for thirty years has been the guardian of our public health

It was his duty, of course, and he was paid to do it—though the less said about the latter, the better—for when one considers the miserable salary that was all this city could afford to pay to a man who for thirty years has filled one of the most important offices in its service, one feels rather ashamed. Still, he was paid a salary. Yet we feel that this does not quite discharge the debt that Vancouver owes to Dr. Underhill. His was a particularly difficult and thankless task. Blame in plenty would have been his share, if owing to carelessness or neglect on his part, any great disaster had occurred—yet, when he did his duty, and, in spite of themselves, protected the citizens against infectious disease, against epidemics, against impure milk and bad sanitary conditions, all too frequently he was attacked and opposed bitterly—and all too seldom did he receive the support and backing that should have been given him. But none of this prevented him from doing his duty. Patiently, courageously, but courteously withal, he did what he knew should be done, and insisted on those in authority doing the right thing. No easy job for any man, but he did it exceedingly well and Vancouver today, with its pure milk, and its pure water, its well-kept food stores, and its comparative freedom from slums and disease-traps, may thank Dr. Underhill for its blessings along these lines. Handicapped by lack of funds, by lack of staff, and by public apathy he never gave up the fight against dirt and disease, and in his quiet unspectacular way, he achieved great victories.

Always courteous and gentle, he could yet be firm and insistent—could even flame into righteous indignation. To all who knew him, it was a pleasure and an inspiration to have dealings with him, and one never failed to secure from him the fullest consideration, the most sincere and honest response, for he never attempted to dodge an issue put squarely to him. All too often he was unable to do what he would like, or wanted

to do, but he gave his reasons frankly and candidly, and did the very best he could.

So we are sorry, very sorry, to see him go, and we feel that we should say so. We feel, too, that the medical profession of this city should pay a tribute, a sincere and thankful tribute, to this man who has done so much honour to his profession, and been loyal to its very best traditions.

It would be most fitting that we should make some formal acknowledgment to Dr. Underhill of the esteen in which we hold him, and of the regret with which we see him leave the service of the city.

He has, we hope, many years of happy and peaceful life ahead of him, and we find it in us to envy him the satisfaction and peace of mind with which he can face these years. We wish him long life and every happiness, and we say to him "Well Done!"

THE NEW COVER

With the first number of the new volume, we are introducing some changes which we hope our readers will find an improvement. Till now the Bulletin has been very modest of mien, almost homely indeed in its outward appearance. This was partly a natural modesty becoming to one so young, but partly an "enforced habitation," for where outgoings so closely balance incomings, no mere frippery of self-bedecking could be afforded. But we have felt for some time that as "oft the apparel doth proclaim the man," so the cover of a book may be wisely or foolishly chosen, with respect to its contents—and while the most gaudy cover is no index to what lies within, yet it is only seemly to express in our outward garb, our pride and self-confidence, rather than wear for ever sad-coloured rainment.

The new cover does credit, we think, to the designer, Dr. Murray Meekison, and we should like here to express our thanks to him for his interest and keenness in the matter of the Bulletin. He is a "find," as the newest recruit to the Publications Committee.

Our readers will also notice a change in the paper of the magazine and we hope that they will like our new departure.

ON THE MAKING OF BOOKS

Of which, too truly, there is no end. There is too much being published along medical lines. There is too much undigested, ill-considered stuff, filling our journals, filling the sample cases of representatives of publishers, calling for review and fattening the medical magazine, till it has grown to twice and three times and four times its original size. Enormous numbers of abstracts, does anyone read them all, and are they worth reading? Here is a duty of the Library, to direct our reading, and to winnow all this heap of chaff, till the few grains of wheat be found. Indexes, or the ridiculous sample copies (pp 18, 76, 239 in sequence, with some especially seductive pictures) are of no value, or help. The books should be passed on by a Library Committee, at leisure and dispassionately, uninfluenced by salesman or laudatory reviews.

By doing this a Library could save the members of its medical association so much in time and money that no amount spent on the Library could be regarded as a waste. Some way should be found of classifying and rating the books that are offered us in such abundance, so that only those which have more than a passing and ephemeral worth

would be bought by the Library, or would be listed as desirable for the medical man to own. The busy man in office hours cannot possibly judge of the real value of the books offered for his inspection.

* * *

NEWS AND NOTES

CANADIAN MEDICAL ASSOCIATION

Vancouver, B. C., June 22-26, 1931

In selecting Vancouver for its 1931 convention the Canadian Medical Association wrought better than it knew. Combining the sea and the mountains as it does in its setting Vancouver is the ideal spot for such a meeting. The social amenities, out-door recreations and delights of the eye which are now recognized as important factors contributing to the success even of scientific gatherings, are all offered to visitors from other provinces in great diversity.

One feature in particular, the freedom from excessive heat which we enjoy in Pacific Coast summers, will make a special appeal to those who come from prairie and eastern provinces.

Every member of the profession in Vancouver can, and will be expected to do something to make the 1931 convention a conspicuous success. Commence by suggesting to your friends in the east that they cannot plan a finer vacation than one which will bring them through the Rockies down to the sea to foregather with the other representative physicians and surgeons in Canada for a week of instruction and entertainment.

* * *

ANNUAL DINNER

The Dinner this year will be held at the New Commodore 870 Granville Street, on Wednesday, November 26th. The New Commodore is excellently adopted for large functions and will prove a pleasant surprise to those who visit it for the first time. The whole top floor of the new building will be given over to the Medical Association for the evening. The Programme will be absolutely fresh—there will be no left-overs from previous Dinners. Please remember the date Wednesday, November 26th.

* * *

ANNUAL DUES

In accordance with By-Law No. 5 Section A of our Constitution and By-laws drafts have been prepared and will be presented on November 3rd to all members whose dues for the year 1930-1931 are unpaid on October 31st.

* * *

CORRESPONDENCE

Oct. 4th, 1930.

The Editor: V. M. A. Bulletin, Vancouver, B. C.

Dear Sir:-

I have read page 2 of this month's issue, but I didn't stop there.

Your bulletin is splendid and for fear of having a copy lost in the mail, I would like to remind you that my initials are E. L.—not A. L.

With best wishes.

Sincerely,

E. L. McNiven.

MEETINGS

A Special Meeting of the Association was held in the Medical Dental Building Auditorium on Wednesday, October 1st, to hear addresses from Dr. R. D. Rudolf and Dr. Frank Scott. These gentlemen had been touring the Province under the Sun Life Assurance Company's grant for Post-graduate instruction. Dr. Rudolf discussed the question of "High and Low Blood Pressures" and Dr. Scott spoke on "Intestinal Obstruction." There was an attendance of over 100 and the thanks of the Association are tendered to the Canadian Medical Association for sending these speakers to Vancouver.

* * *

A Special General Meeting was held in the Auditorium, Tenth and Willow Streets on the evening of Monday, October 6th, for the purpose of receiving the report of the Special Committee re the Vancouver General Hospital Regulations and to hear an address from Dr. J. B. Collip, who was passing through Vancouver on his way to San Francisco. Dr. Gillespie, Chairman, read the report of his Committee which was very full and complete. The report was adopted unanimously at a very representative meeting and resolutions were carried (1) That copies of the report be sent to the Provincial Government,, the Board of Directors of the Vancouver General Hospital, the City Council and to Dr. A. K. Haywood, the new superintendent of the Vancouver General Hospital: (2) That a Committee be appointed by the President and Dr. Gillespie (of which Committee Dr. Gillespie should be Chairman) to meet Dr. Haywood on his arrival in Vancouver and present the report. The report is on file in the Library and can be seen by any member wishing to read it.

* * *

The first General meeting of the winter Session was held in the Auditorium of the Medical Dental Building on Tuesday, October 7th. Dr. Strong, President, was in the chair. Seventy members were present.

The Summer School reported a very successful session in June 1930 with a substantial credit balance. Drs. C. H. Vrooman and J. W. Arbuckle were appointed to the Committee in place of Drs. Christie and Ewing whose term had expired.

The Treasurer reported on the receipts and expenditures in connection with the entertainment of the British Medical Association visitors in September. A question arose as to the disposal of the balance of the funds collected. After a considerable discussion a resolution carried that the balance be held for the entertainment of distinguished visitors as occasion arises.

Dr. Prowd reported on behalf of the Executive on the negotiations with the B. C. Medical Association re amalgamation. After some discussion a resolution was passed giving the President power to appoint a Committee to meet the Executive of the B. C. Medical Association to arrange the necessary changes in the bylaws and constitution.

The following were nominated for membership in the Association: Drs. C. A. Eggert, E. Trapp, E. Sheffield, T. R. Whaley, J. W. Shier, R. Miller-Tait, G. Kennedy, H. Dyer, A. T. Henry, S. G. Elliott and H. R. L. Davis.

The speaker of the evening was Dr. M. F. Dwyer, of Seattle, who gave a very interesting talk on "The Interpretation of Gastric Symptoms." This included a clinical and roentgenological study of some 3000 cases. A good discussion followed and after a hearty vote of thanks to the speaker, the meeting adjourned at 10:30.

* * *

Speaking at a dinner given by the McGill Graduates' Society of Vancouver to the Chancellor, Mr. E. W. Beatty, and his party, on Thursday night, September 25th, Dr. W. W. Chipman, Professor Emeritus of Obstetrics, replied to the toast to the guests. Some of his remarks were of particular medical interest, and not only to those in Vancouver who are graduates of the McGill Medical School.

He referred to his predecessors, Dr. Girdwood, professor of Gynaecology, who retired in 1910, and to Dr. Cameron, professor of Obstetrics, who died in 1912, and eulogized the excellent traditions they had established. Dr. Girdwood indeed was the founder of his subject His own contribution he modestly described as having united the two chairs, and retiring at a time which might have been considered too early, but was better than being to late.

The Women's Department of the Royal Victoria Hospital, with its 220 beds, was described as an institution which has no superior elsewhere, and is under the capable direction of Dr. J. R. Fraser, whom many Vancouver graduates recall.

In speaking of the work of the medical staff in other connections, Dr. Chipman told in the most enthusiastic way of the great research work in endocrinology being prosecuted by Dr. J. B. Collip. His placental extract, called emmenine, with which he has been working in conjunction with Dr. A. D. Campbell, who conducts the clinical side of the research, promises to work a revolution in the treatment of delayed maturity, with its accompanying dysmenorrhea and other distressing symptoms. A joint paper on this subject was read before the recent meeting in Winnipeg, which will shortly be published.

* * *

The following is inspired by a paragraph in the Vancouver Star appearing under date of Sept. 24th, 1930.

Mr. Justice Galt, a member of the Manitoba Court of King's Bench, argues that Privy Council appeals should be continued. His reason is, quite frankly, that Canadian lawyers and judges cannot compare with their colleagues in the British Isles. He compares that situation, as quoted by a Canadian newspaper, with what he believes to be that in the medical profession, namely, that a certain widely-known surgical clinic in the United States has better facilities and greater knowledge of human disorders than are to be found in Canada, and thereby suggests that Canadians who are ill and can afford the expense should lose no time in going across the line.

We do not presume to argue with his Honour over the possible deficiencies of the Canadian Bar, but we refuse to admit the justice of his comparison. With all respect to our eminent American colleagues, we do not recognize that mass production methods in treatment of

disease invariably mean maximum efficiency, or that a "greater knowledge of human disorders" needs be sought beyond the confines of Canada.

* * *

Mr. Harold R. Dew, who fills the Chair of Surgery at the University of Sydney, Australia, was entertained at Luncheon by the Association at the Hotel Georgia on Tuesday, October 14th. Mr. Dew was passing through the City on his way home after studying certain phases of medical education in the States and Europe. Mr. Dew gave a short talk on the hospital situation in Australia and discussed the changing economic conditions in medicine thoughout the wold, in their relation to hospital and private practice and also in relation to State medicine. He spoke of the different kinds of State medicine in various countries and their effect on the general practitioner.

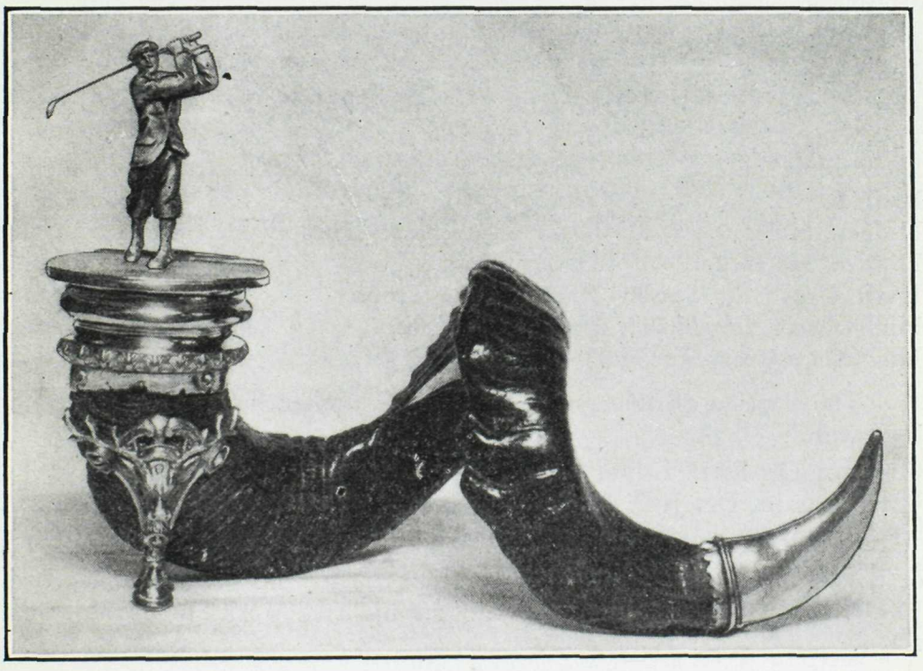
* * *

Drs. Dallas Perry, W. C. McKechnie, B. S. Elliott and C. W. Prowd recently returned from a holiday spent mostly on the Finlay and Parsnip Rivers and in the Peace River country. They are full of amazement at the enormous area already under cultivation and the wonderful opportunities of the district.

* * *

GOLF

Rams Horn Trophy
Presented by Daniel McLellan
for the Aggregate Low Net Score of the season.



This is a perpetual trophy to be played for yearly, and to be held by the winner for one year, or until wrested from him by another player. This includes the two practice tournaments in the Spring, and the Fall tournament. Players from Greater Vancouver, North Vancouver, and New Westminster are eligible. Rules to be those governing medal score.

Handicaps: For the purposes of this trophy, the handicap under which a player plays in the first Spring tournament shall prevail throughout the season.

In case of a tie, the winner shall be decided by a play-off of eighteen holes or any lesser number agreeable to all concerned. The course on which such play-off is played shall be a neutral course to all concerned, unless this point is waived by any player.

All cases of dispute shall be decided by the Golf Committee, whose decision shall be final.

Meeting with approval of the Library Committee, a shield or placque, bearing the name of the winner for each year, will be placed in the Library.

* * *

ANNUAL AUTUMN GOLF TOURNAMENT

The final golf match of the year took place over the links of the Jericho Golf and Country Club on Thursday afternoon October 9th. Sixty three players took part in the match and the majority of these remained to dinner.

During the course of the dinner the presentation of the prizes for the days achievements was made by the Captain of the team. The following stars received the awards:

	Trophy	Winner
Low Gross 1	Worthington Cup	Dr. J. E. Harrison
Low Gross 2	Macdonalds	Dr. L. H. Webster
Low Net 1	Medical & Dental Bldg.	Dr. Colin Graham
Low Net 2	B. C. Stevens	Dr. Lee Smith
Short Hole	Canadian Surgical Supplies	Dr. Geo. Clement
Long Drive	Victor X-Ray Corp.	Dr. Geo. Wilson
Hidden Holes 1	B. C. Clean Towel Supply	Dr. Wm. Ewing
Hidden Holes 2	Henry Birks & Sons	Dr. D. M. Meekison
High Gross for Season	Ram's Horn Trophy	Dr. G. C. Draeseke
High Gross for Match	Fisher & Burpee	Dr. W. C. Walsh
Low Gross for Season		Dr. T. K. McAlpine

The election of officers for next year was then held, with the following results:

Captain: Dr. E. E. Day
Vice-Captain. Dr. J. P. Bilodeau

Dr. McLellan desires to extend his sincerest thanks to all members of the Club for their hearty co-operation during the year, most especially to Dr. E. E. Day, the Vice-Captain, for his hard work and loyalty at all times.

He also extends best wishes for success to the incoming Executive.

LIBRARY SECTION

Abstracts and Reviews

Conducted by the Osler Society

Cysts of The Long Bones of The Hand and Foot. Harry Platt. *British Jour. Surg.*, XVIII., 20-27. July 1930.

Platt presents a series of 20 cysts of the miniature long bones occurring in 17 patients, in his usual careful and illuminating manner. The literature on this particular aspect of bone pathology is very scanty and this article provides an opportunity for the surgeon to acquaint himself with this little known condition. He states that the bones involved in order of frequency are the phalanges (of the hands), metacarpals and more rarely the metatarsals. The cysts originate in the growing ends (metaphysis). The favourite digit is the little finger. The majority of cysts remain latent for a time, and are discovered after the occurrence of a local injury. Spontaneous fracture is a fairly common phenomenon. In 13 cysts, in which a microscopic examination was made of material removed at operation, two varieties of lesion were distinguished (a) chondroma (myxochondroma) (b) osteitis fibrosa. For practical purposes these two lesions comprise the whole morbid pathology of the miniature long bone cysts. Alternative lesions, such as giant cell tumour (myeloid sarcoma) or malignant tumours are almost unknown. The differential diagnosis between the two standard lesions is almost impossible on clinical and radiographic evidence alone. In both types of cyst, spontaneous arrest or healing may occur, particularly in young patients. For such cysts, no form of operative treatment is required. Cysts which are actively extending, or where the bone shell is perforated by fracture, should be explored. The most effective method of eradicating the lesion is to curette the contents and cauterize the interior of the cyst with pure carbolic acid. This procedure is best combined with the insertion of one or more autogenous bone grafts which hasten the obliteration of the cystic area. A complete bibliography is appended.

D. M. Meekison.

* * *

Mediastinal Pleural Effusion. Sagel, Jacob, and Rigler, Leo G. *The American Jr. of Roentgenology and Rad. Ther.* 1930, Vol. XXIV., 225-233.

The authors discuss in detail the aetiology, classification, diagnosis and to some extent the treatment of this interesting and comparatively uncommon condition. Aetiologically, they describe two chief types: 1. the serous type, generally associated with pulmonary tuberculosis and 2. the purulent type, which is pneumococcic, or rarely, streptococcic in origin. There are five points of invasion: the lung in the presence of pneumonia or tuberculous foci; the tracheobronchial nodes especially in children; the pericardium, when an inflammatory process is present, and from the mediastinum and chest wall as a result of direct extension from

inflammations and tumours, paravertebral abscess and miscellaneous other rare conditions. Diagnosis is very difficult, if not impossible, by means of physical examination and depends upon radiological investigation. The specific points of importance in the latter form of examination are described in detail and the need of combined fluoroscopic and radiographic examination emphasized. A review of the literature and a summary of case reports concludes this interesting article.

H. A. Rawlings

October 15th, 1930.

* * *

Inflammatory Diseases of The Large Intestine. J. Arnold Bargen, M.D. *International Clinics,* Sept. 1930, 202-210.

The three most common chronic infections of the large intestine are considered, namely, chronic ulcerative colitis, tuberculous colitis and parasitic infection. The history is always suggestive, but the important step to a diagnosis is the gross and microscopic analysis of the stools or rectal discharges, proctoscopy and roentgenoscopy. The differential diagnosis is discussed in some detail. The author feels that in chronic ulcerative colitis that the diplostreptococcus is not the sole instigator of the disease, but it probably one of primary importance. Recent work has suggested the possible significance of mutation forms of this organism or of a closely related group of streptococci. In the treatment of chronic ulcerative colitis the less severe cases are given a vaccine prepared from the diplostreptococcus, in the more severe cases an antibody solution is administered. The removal of foci of infection and the importance of the dietary regime are also stressed. At the present time he believes that one should speak more of control of the disease rather than cure.

Surgical interference is reserved for the treatment of complications or those few cases that resist medical treatment.

In intestinal tuberculosis treatment leaves much to be desired. In the localized hyperplastic types surgery is the method of choice.

The most satisfactory of all chronic infections of the large bowel to treat are those caused by amebiases. The simple regime of emetin hydrochloride and stovarsol or treparsol is followed.

W. H. Hatfield.

* * *

Osteoperiosteal Bone Grafts. G. M. Dorrance. *Annals of Surgery.* XCII, 161—168, August, 1930.

Dorrance, from the laboratory of research in surgery of the University of Pennsylvania, describes an extremely interesting method of bone grafting, citing a case and describing experimental work. He uses an osteoperiosteal graft obtained from the tibia. One end of the graft is secured to the roughened bone or fragment above the region to be fixed and the graft is passed through a tunnel in the subcutaneous tissues to the roughened bone or fragment below. The graft is first wrapped in rubber dam and this is removed when it is fixed in position. The wounds are then closed. Startling success attends the operation. His conception of the ideal conditions for this procedure are:-

(1) The osteoperiosteal bone graft should contain a good supply of bone with the periosteum. The periosteum that is stripped from the bone will not develop bone.

(2) One must be just as careful to fasten the graft to the bone as in full thickness graft.

(3) The same care must be used in preparing the bed for the reception of the graft as in a full thickness graft.

(4) It requires a longer time for the graft to become solid.

(5) In all bone graft surgery one should secure as complete immobilization as possible during the first two months.

(6) The thickness and strength of the graft depend on the amount of weight-bearing that is required.

The possibilities of this manoeuvre are enormous and the article will well repay reading.

D. M. Meekison.

* * *

Prophylaxis of Asthma in Children. M. Murray Peshkin, M.D. *International Clinics.* September, 1930. Page 262-266.

The author points out that whereas the diagnosis and treatment of asthma has been placed on a rational basis, the subject of prophylaxis in allergic conditions has scarcely been mentioned in the literature. The onset of asthma may be acute or insidious, 61% being in the latter group. One should endeavour to recognize the pre-attack stage and institute preventive measures. The family history will in most cases indicate any predisposition to the disease. In 21% of cases intercurrent infection has initiated the onset of asthma. Recurrent rhinitis and bronchitis, when unaccompanied by fever are often manifestations of allergy and the forerunner of asthma. This has preceded the onset of asthma in 33% of cases; 14% of cases the onset occured following pneumonia. The impression that enlarged tonsils and hypertrophied adenoids plays a part in the causation of asthma is discredited.

In a series of children with asthma it was found that 22% had eczema—7% urticaria and 2% angioneurotic oedema. Children with eczema frequently showed positive protein skin tests for foods. All sensitizing substances should be tried and positive ones avoided as a preventive of asthma.

The injection of therapeutic sera and nonspecific antigens was responsible for some cases of asthma. Skin tests with horse serum should be preformed before administration of therapeutic serum. Various nonspecific factors may be responsible for hastening the onset of asthma in allergic individuals, e.g. physical over-exertion and indiscretion in diet. As stated by the author, prophylaxis in asthma has scarcely been mentioned in the literature. Preventive medicine is more and more coming to the fore and in this most debilitating condition it has a very obvious place which cannot be stressed too greatly.

W. H. Hatfield.

* * *

The July issue of the British Journal of Surgery is particularly informative. It contains articles on "Endothelioma of the Cauda Equina,"

"Gas Gangrene in Civil Surgery," "The Approach to the Hip Joint," "Splinting in Tuberculosis of the Hip," "Carcinoma of the Duodenum," "Volvulus of the Stomach," "Hypertrophic Charcot's Joints," "Tumours and Inflammations of the Gasserian Ganglion" and "Obstruction after Gastrojejunostomy."

* * *

The Results of an Investigation and the Treatment of Streptococceal Puerperal Sepsis at the Toronto General Hospital. W. A. Dafor, M.B. *American Journal of Obstetrics and Gynaecology* August 1930.

Since a survey of the literature reveals puerperal sepsis to be the cause of 30% of the deaths following childbirth and that the organisms found in the blood stream in from 70 to 90 per cent of the fatal cases is the Streptococcus Haemolyticus, this investigation was carried out, in the hope that information might be obtained which would be of practical value in either decreasing the incidence, or in treating cases already affected

In classifying the Streptococcus Haemolyticus, Shottmuller's suggestion was adopted.

1. Streptococcus Haemolyticus.
2. Streptococcus Ahaemolyticus.
3. Streptococcus Viridans.

During the years 1927-28 cultures were taken from 1378 patients.

1. The latter weeks of pregnancy—yielding 7 positive cases
2. During labour —yielding 14 positive cases
3. The puerperium in normal and all morbid cases —yielding 52 positive cases

2. Out of these 14—Streptococcus Haemolyticus disappearing during the puerperium in 7 cases but produced definite evidence of infection in the other 7.

3. Thirty-two were cases of puerperal sepsis—20 showed no evidence of puerperal infection.

Examination:

1. Complete physical.
2. Blood—R.B.C.—W.B.C.—haemoglobin and blood cultures.
3. Cervical smears and cultures.

Treatment: included.

1. General Measures.
2. Non-specific measures
   (1) Transfusions.
   (2) Intrauterine injections of carbolic & glycerine (1-16)
3. Intravenous and intramuscular (buttocks) of scarlet fever antitoxin—30 to 40 c. c. in 36 hours.

Results:

Of these cases, 17 were considered to be seriously ill, 4 had positive blood cultures (Streptococcus Haemolyticus) There was one death, the only one in the public obstetric wards, caused by Streptococcus Haemolyticus, from spring of 1926 up to the present date.

Conclusions:

1. Thirty-two per cent of the morbidity in the cases reported was due to puerperal sepsis and in over 50%, the Streptococcus Haemolyticus was the causative organism.
3. Seasonal in appearance—winter and early spring.
3. Occasionally present in genital tract during pregnancy, more often during labour, and most often in the pueperium.
4. Streptococcus Haemolyticus, when found in the cervical canal during the puerperium is always a source of danger.
5. Early investigation and immediate treatment of puerperal sepsis cases is essential.
6. Scarlet Fever antitoxin has a special value in the treatment of puerperal and postabortal cases of sepsis due to the Streptococcus Haemolyticus.
7. The possible value of antenatal immunization for all patients would seem to offer a fruitful research problem.

W. L. Boulter.

"Read, Mark, Learn and Inwardly Digest"

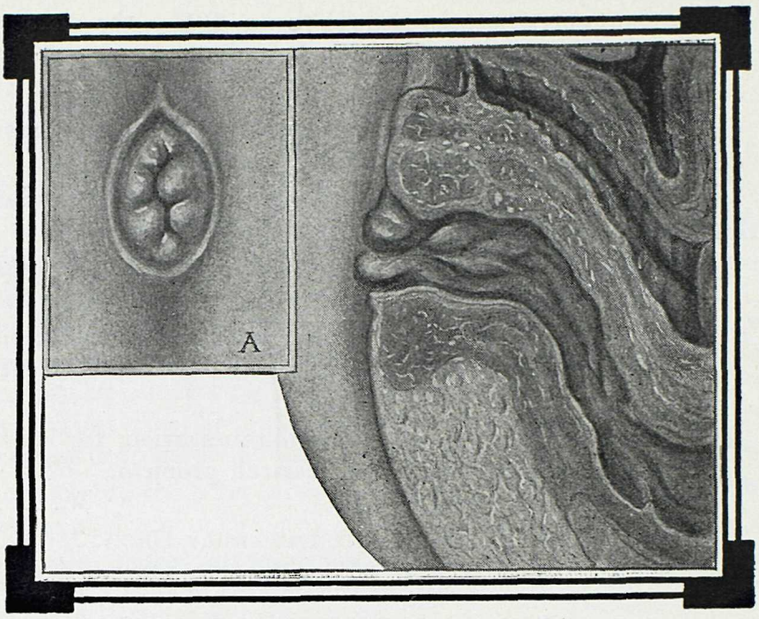
* * *

HEALTH INSURANCE

Brief presented to the Royal Commission on behalf of the B. C. Medical Association.

The following are the views in summarized form of the medical profession of British Columbia, as represented by the British Columbia Medical Association. Local branch societies, in Vancouver, Victoria, New Westminster, Nanaimo, the Okanagan, the Kootenays, and Northern British Columbia, have all authorized the provincial association to represent them and express these views, which have been arrived at after several years' study of the situation—reviewing Health Insurance measures as now in force in other countries, taking into account conditions in Canada, and notably in British Columbia, and having regard to the interests, not only of the medical profession, but also and chiefly of the community at large, and especially that section whom Health Insurance is designed to benefit.

The medical profession has no scheme or plan or Health Insurance to submit. It feels, however, that there are defects in our present system of treatment of the sick, chiefly caused by the difficulty in meeting the cost, in the case of people of small and moderate incomes; that this leads to inadequate treatment of the sick, delay which is often harmful, and notably to a lack of properly carried out preventive measures. It would support a measure of Health Insurance, if the latter were carried out in accord with certain principles which it is proposed to define, these principles being, as we see it, essential to efficiency, harmony, and the public good. While it is manifestly necessary to enquire into the Health Insurance Acts in force in other countries, we believe that especial regard should be had to conditions of life in Canada, and notably in British Columbia an dthat the system of medical practice that has obtained in this country should be adhered to as closely as is possible.



In the Management of Hemorrhoids

palliative treatment is generally directed to removing congestion of the portal circulation and diminishing the size of the piles.

Applied to the entire perineum as hot as can be comfortably borne.

Antiphlogistine

constitutes a palliative par excellence in the alleviation of the pain, inflammation, and distressing tenesmus caused by external piles.

Coupled with appropriate diet and exercise, the routine application of this plastic dressing will usually suffice to yield results in the management of hemorrhoids.

SAMPLE OF ANTIPHLOGISTINE AND CLINICAL DATA MAILED TO THE PHYSICIAN ON REQUEST.

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In this connection we would draw especial attention to the report of the General Council of the British Medical Association for 1929-30, in Appendix IV of this report, which brings forward "Proposals for a General Medical Service for the Nation." While it is true that this report is prepared by a medical body, careful reading of it will show clearly that it is actuated by a sincere desire for the public good equally with that of the profession—stress is everywhere laid on the patient, and his best interests consistently sought for. The report is a very full one, is based on eighteen years of experience of Health Insurance, and is the fruit of long enquiry.

We would refer also to the Supplement to the British Medical Journal of November 3rd, 1928—hereto appended, especially with regard to its remarks on maternity, antenatal work, and the relation of health work to the general practitioner.

Lastly, the Brief for Health Insurance prepared by the American Association for Labour Legislation in 1916, is worthy of consideration, thought, of course, much of it is slightly out of date.

Scope of Act

We believe that as regards scope, the following are essential conditions.

1. *The Act should cover all those persons in the community whose incomes are below a certain limit.* The fixing of this limit is a matter of dispute, but we believe that at first, $1500 yearly for married men, and $1200 for single men, might be taken as a fair figure. Later, as the Act proves itself a success, these figures might be raised, but people with these incomes are the ones that need relief most.

Another suggestion made has been to take all the workers in a given industry, even if some have incomes above this figure, and include them in the industry.

This is as regards the compulsory feature of the Act. Optional clauses might be inserted to admit others who come in higher wage-levels.

Special arrangements for casual workers, floating labour, and the indigent, will no doubt be necessary. As regards the latter, adequate Health Insurance and preventive medicine will doubtless greatly reduce indigence by eliminating that part of it due to sickness and invalidity. (See also Brief for Health Insurance 242, Section 4.)

2. *It should provide for all illnesses.*

Possibly at first, some limitation will be necessary, in the case of chronic illness preceding the entrance of legislation.

Tuberculosis, mental disease, and other institutional diseases might perhaps best be still treated institutionally. It is probable that here again, thorough care of the early cases, and preventive medicine, will do much to lessen later incidence.

Accidents. These would, we presume, be treated under the separate Workmen's Compensation Act, as in Great Britain and elsewhere.

3. *It should include the wives and families, of those who come under its opreation.*

This is done under the French Act, and we believe is essential if preventive measures, pre-natal work, maternity care and child welfare

work are to be efficient. It may be noted that in Great Britain the British Medical Association is urging this inclusion.

(British Medical Journal Supplement April 26th, 1930.)

Those who have dependents would probably pay a higher rate proportionately as industry cannot be held responsible for sickness in the family.

3. *The Act should provide a complete service,* including consultations, specialists where necessary, hospital and nursing service, also dental service.

As regards nursing, we believe that much could be done in the way of pre-natal and post-natal care and education, as well as infant welfare, by visiting nurses. But the nurse should in all cases be answerable to the practitioner in charge of the case, and should not undertake diagnosis or treatment in any form.

This necessity for a complete service is recognised both by labour and the medical profession. In Great Britain, the latter have again and again urged its importance, and in their latest reports (British Medical Journal Supplement) are still urging that this be given.

Operation of The Act.

We believe that the following main principles are essential:

1. The act should be *compulsory* for all those who come within its scoe. We do not believe that any voluntary scheme can ever be efficient and we find that the consensus of opinion everywhere is in favour of compulsion.

2. Every one who comes within its scope should be on the same basis. By this we mean that we do not believe it would be wise to allow any organization, industrial or commercial, to administer its own sickness insurance as is now done in certain cases, by voluntary grouping of employees. We feel that the Act can be administered more efficiently and economically with one administration, that preventive medicine will be better carried on and that much better control can be exercised. In certain areas, namely lumber and mining camps and certain agricultural districts, it is probable that special local arrangements will have to be made to suit local conditions. If the plan of local committees in areas of the Province is adopted, they will be able to work out plans for their own locality to co-ordinate with the general scheme.

3. The Act should be administered by an extra-political Board, as is the Workmen's Compensation Act. On the whole, we believe it best that this Commission should be the final Court of Appeal, as in the Workmen's Compensation Board. Appeal Boards otherwise, do not, we feel, offer any advantage and increase the cost greatly. We believe that the medical profession should be represented on this Board.

We feel, however, that there may have to be some degree of devolution from this Board, which would be supreme. The local conditions vary so much in different parts of the Province, that it might be wise to set up local Committees.

This would have several advantages. It would make for more widespread interest in the Act, and a wider knowledge of its workings, and would undoubtedly lead to saving of time and effort, especially in cases of dispute. These local Committees should have representation from the

Medical Profession (see later under Discipline) and should be autonomous to as great a degree as possible while being, in the final analysis, subordinate to the main Board (see pp. 259, 260, Brief for Health Insurance).

This is done in Great Britain and France, as well as elsewhere.

Questions of methods of payment of doctors, of hospitalization etc., could be dealt with by these local Committes to suit local conditions.

4. As regards medical aid. The system of practice should be, we feel, as nearly as possible the one following at present by those who are sick, and who expect to pay for their doctor's services etc., themselves. This is applicable, in our opinion, to the indigent as well as those who pay. We would refer especially here to Section II (b), on pages 164-170 of the report of the British Medical Council for April 26, 1930. We strongly endorse the views expessed in this and subsequent paragraphs dealing with the medical treatment of disease.

The aim should be to provide every family or individual with a family doctor. This has many undoubted advantages of which the following are a few.

It is in accord with the present system to a great extent, and will mean less machinery and rearrangement.

It is in accord with the ordinary instructive desire of people to have their own medical attendant, whom they feel they can trust and like and who gets to know them better than anyone else can. He is interested in them personally, feels responsible for them and to them, and must satisfy them in order to build up his practice, and make a successful career. Every qualified registered medical man should be eligible to practice under the Act, provided he shows himself competent and does his work properly.

The question of discipline is an important one.

We believe that as far as possible, the responsibility for discipline should be placed on the organized medical profesion. This is done in Great Britain through local Insurance Committees of medical men. Dr. Cox of the British Medical Association assures us that this has worked so satisfactorily that the Government is placing more and more responsibility on the organized medical profesion, for the control of medical men. Here again we feel that the paragraphs from 25 to 30 of the same report on pages 170-171 are worth careful consideration.

There should be free choice of doctors allowed to every insured person as is enjoyed by those who pay their own bills. This we believe to be the best method by far and it has proved successful with the Workmen's Compensation Act. It makes for competition among doctors, and this leads to efficiency and keenness and is, we believe, the most satisfactory method from the patient's point of view.

The working of the British National Health Insurance Act shows the recognition of this in Great Britain. Here at first, the panel patient had to choose his doctor and stay with him six months. The period has been shortened till now there is practically complete freedom of choice. Dr. Cox, of the British Medical Association assures us that this has led to very little changing, but a more satisfied feeling.

B. Ample provision should be made for the employment of specialists and conssultants where necessary. The term "specialist" and "consultant" will need definition—but encouragement and incentive should be provided for men to become specialists, as they become expert in some particular line. This will ensure adequate and high-class medical care for every kind of work.

Payment of Doctors

C. We believe that the best method, in the long run, is payment for services rendered, according to a schedule of fees, based on the scale at present in use by the medical profession of British Columbia. This is done under the Workmen's Compensation Act and, we believe, is quite satisfactory.

The capitation fee, as paid under the British Act, has, to our mind, several disadvantages, though it may seem at first to be simple and to avoid offering temptation to unnecessary work.

It is not as flexible as the fee list. If a patient changes doctors under the latter arrangement no bookkeeping changes are necessary.

It introduces the element of speculation as between the employer viz. the Board and the doctors employed. Payment for actual work done is the more businesslike method.

It is an arbitrary change in the system of practice to which our people in this country have become accustomed and has apparently been adapted from the "lodge practise" or club practise method, to which the poorer people in the older countries had long been accustomed.

Exceptions to the method of payment we suggested, would be in the following cases.

Officers of health, and medical men in the health service.
In localities where population is small, and, as is done at present, subsidies are necessary.

In logging and mining camps under certain conditions

These local variations could be dealt with under the system of Local Committees.

Who should be allowed to practise under the Act?

We believe, that in this matter it is the duty of the legislature to protect the public against uneducated or ill-educated practitioners of any kind. The principle we would urge is that no one should be allowed to treat the sick by any method of treatment whatever, who has not shown before responsible bodies that he has received a sound, basic education both general and scientific according to accepted modern scientific views and who does not give proof of adequate knowledge of the construction and functions of the body both in health and disease, modern methods of diagnosis, full knowledge of health and sanitary laws.

They should also show proof of adequate scientific training in the system that they employ.

Prevention of Disease

This we believe, should be an essential and primary part of any scheme of Health Insurance. The following principles should, however, we feel, be observed.

1. The preventive department should, as far as possible, be divorced from the therapeutic department, and health offcials and nurses should not undertake treatment beyond what cannot possibly be avoided. This will ensure the goodwill and co-operation of the medical practitioner, and will be more equitable, besides being, we believe, the more efficient method.

2. The general practitioner, or family doctor, should be used wherever possible, as an adjunct to the health service. His sympathy and support will add greatly to the value of this work at no extra cost, and his knowledge of family conditions should be very valuable. We note that this recommendation is also made by the British Medical Association Insurance Committee.

In this connection, it has been urged that periodical health examinations should be included in a health insurance scheme. We do not know if this is feasible, but checking of individuals while well should be the means of detecting early trouble, and avoiding serious illness later on. We believe that this question deserves the consideration of the Commission.

Cost of the Act

We believe that the Act should be and can be self-supporting. The contributions being made by three parties concerned, namely beneficiary, the employer and the State and based on a due appraisal of their responsibility for disease.

The Fund

This, we believe, should be contributed to by

1. The Beneficiary

We note that in the French Act this is done by a levy of 5% of wages and upward. The exact percentage is a matter for actuarial investigation, but the percentage method would seem fairer than the flat rate, as the low wage earner would not then be unduly taxed, and the higher would pay more, which is fair.

As to the proportion of the whole to be assessed against the beneficiary, we have no opinion.

2. The Industry

The proportion to be paid by industry, the employer, is, again, a matter for the Commission to decide. We feel, however, that industrial

conditions have a large bearing on sickness, and that it would be more equitable, as is suggested in the Commission's Interim Report, if all employees were assessed fairly and equally.

3. The State

Here, again, we cannot suggest a ratio but feel that ultimately the taxpayer would probably pay less, if beneficiary and employer paid their fair share.

Hospitals

Hospital service, where necessary, should be part of the service provided by the Act.

The doctor treating the case should be in all cases, able to treat his patient in the Hospital. This we hold to be essential, for several reasons.

1. He knows his patient better than anyone else can, his family conditions etc., and is personally interested in the patient's welfare.

2. The immense educative value to the doctor, of hospital practise, is beyond all doubt or question. He is able to be in touch with the latest developments of modern medicine, to use the best methods of treatment under the best conditions, and this adds immensely to his keenness and efficiency, a matter of the greatest importance to the community he serves.

This should apply to the indigent, if any there be.

As regards hospitalization.

Ultimately, we believe, this should be completely free, and included as part of the provisions of the Act.

At first, some limitation may be necessary on account of questions of expediency. This will no doubt be considered by the Commission but we believe should be temporary. In this connection, the Bush Hospital Scheme of Queensland in Australia is worth consideration, as outlined by Sir James Barrett recently. This is based on regular contributions to the fund and does not give absolutely free hospital service, but gives it at greatly reduced rates. This tends to reduce days' stay in the hospital, and removes possible danger of free hospitalization. Alberta, we notice, charges a daily fee to those who come under the operation of the Act dealing with municipal hospitals.

Maternity Benefits

We believe that in the matter of maternity benefits, cash grants should not be given, but provision should be made for adequate pre-natal and post-natal care, for care during confinement and for nursing service. Here we would refer to paragraph 5, page 177-8 of the Supplement of the British Medical Journal, April 26, 1930, where further reference is made to a full scheme suggested in the British Medical Journal of June 29, 1929, page 258.

Sick Benefits

It would seem obvious that in a complete scheme of Health Insurance provision should be made for the wage earner to receive a proportion of his wages while sick, as this greatly relieves the problems caused by sickness; invalidity insurance should also be included. Both these measures are adopted under the Workmen's Compensation Act and are an important part of any scheme.

Other Considerations

1. The Indigent.

By this we mean, those from whom no payment can be collected, as they are either unable to work, or at least to earn a minimum wage.

We include in this group widows, or orphans, where there is no bread-winner.

We believe that indigents will be few, and fewer under a Health Insurance system. If the health of the community is improved, there will be less invalidity and crippling, which now constantly recruit these ranks.

But those that do exist, should be treated as patients, not as charity cases. They should have the same privilege as others, of choice of doctor etc., and they should be paid for, as regards medical expenses.

We quote from British Medical Journal Supp. April 26, 1930-VII (4) Paragraph 33, pages 171-2 and would point to Denmark, where all hospital "free work" as we would call it, is paid for. There are no charity cases in Denmark.

Insurance Companies

We do not believe that these should have anything to do with the operation of the Act, as it involves private profit in the first case, and in the second, the Act could be much more economically administered by a Board. This has been shown in the case of the Workmen's Compensation Act.

Benevolent Societies, Fraternal Orders, etc.

We understand that in Great Britain these are debarred from any connection with medical benefits. We do not think they should have anything to do with the Act at all. In the first case, there is nothing to be gained that we can see by using them as carriers, even for sick benefits. Every penny that is collected from the beneficiary should go back to him, and no percentage should be taken from it for the upkeep of any organization.

In the second place, these organizations tend to act as a brake on improvements, this at least is the experience in Great Britain, according to views frequently expressed. They are largely kept in being now on account of the cheap and poor medical service that they can offer their

members, and if they could not survive without that, they would be hardly worth keeping alive. It is our belief, however, that they fulfil useful purposes in the community, and could still function inother ways than as insurers against sickness, by the exercise of their social and benevolent functions.

In this connection, the remarks on page 262 of the Brief for Health Insurance are worthy of note.

* * *

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS

By Dr. G. O. Matthews

The first description of pyloric obstruction in an infant was given by Armstrong in England in 1777. Beardsley, of Connecticut, published an account of a case in 1787. Modern interest in obstruction of the infantile pylorus, however, did not begin until Hirschsprung published a full account of two cases. That was in 1888 and since then our literature has had an ever increasing number of cases recorded until at the present time it is common to see the records of series of literally hundreds of cases by dozens of different men.

Before delving any further into this subject of hypertrophic pyloric stenosis, it is necessary to consider a condition that, clinically, goes hand in hand with it, namely pylorospasm. In spite of a voluminous literature and a wealth of clinical observation, pylorospasm and true hypertrophic stenosis remains obscure as to aetiology and in their relationship to each other.

Many observers who claim to be able to differentiate them by X-Ray and by clinical methods are frequently proved wrong by the clinical course, at operation, or at autopsy. I feel that the only sure way to differentiate these two conditions is by the end result. Both conditions are rightly put in the classification of hypertonic infants and if, after medical treatment, the condition improves and remains improved, the case is one of pylorospasm; if, on the other hand, there is no improvement or if improvement is but temporary, one is safe in assuming true organic obstruction.

Aetiology

Hirschsprung regarded the condition as primarily a muscular hypertrophy. A hypertrophic pylorus has been found in a foetus and as pyloric spasm in a foetus is impossible it follows that the hypertrophy is primary; but the hypertrophy alone is not sufficient to give obstruction and the explanation has been offered that there is a secondary spastic contraction of the muscular coat which is superimposed upon primary hypertrophy. This contraction may, in certain cases, relax at times and let food pass.

Read before the Osler Society of Vancouver, March, 1930.

Pfaundler's theory was, and it is still held by competent observers, that the spasm is primary and that the hypertrophy is a compensatory one caused by it. It has definitely been shown, however, that the hypertrophic tumour may persist long after the spasms have been relieved and although one sees that a true explanation of the full cause of pyloric obstruction is still more or less obscure, from what we do know we are able to form the conclusion that in the early weeks of life there is a predisposition to the development of hypertrophy of the pylorus and that the symptoms are caused by some obstruction of the pyloric canal made easy by the foregoing hypertrophy. In short, that hypertrophy precedes spasm. Always remember, however, that one may have spasm without a tumour, but that with a fully developed tumour there must always be some spasm.

Now what might cause this peculiar congenital tumour formation? Here again there are many theories, but few, if any, proven facts, but all investigators agree that the disorder is somewhat due to an imbalance of the involuntary nervous system, which, as we all know, has two opposing divisions, the sympathetic and the parasympathetic.

Moore of Portland has done the most recent work on this subject. He submits a fairly plausible explanation for this upset in the sympathetic balance. He found, quite by chance, when working on vitamin deficiencies in the diets of Albino rats, that these rats, particularly the young, of the second generation, showed typical pyloric obstruction when fed on a diet deficient in Vitamin B. Investigating a little farther he was able to demonstrate myelin degeneration in the vagus or motor nerves of these animals which type of finding is typical of beri beri, a known disease of Vitamin B deficiency. He concludes that true hypertrophic pyloric obstruction appears to be just one manifestation of a Vitamin B deficiency in the diets both of mother and offspring and which will occur more frequently in each succeeding generation. He thus is able to explain its increasing incidence and its tendency to run in families.

There is one other aetiological theory that I wish merely to mention in passing. To me it is rather far fetched and does not seem to explain at all satisfactorily what it is supposed to, but at the present time it is used as a posible cause for many varied ailments of doubtful aetiology. It is a great 'pinch hitter' as at were—I speak of allergy. One result of allergy is smooth muscle spasm, which in certain cases may be localized. With this point to go on Cohen of Cleveland studied pyloric stenosis from an allergic viewpoint and found that in 40% of his 27 cases there was a family history of allergic manifestations, 40% of these same 27 patients, before the age of 12, themselves developed one or other of the allergic phenomena. Four infants, at the time of their pyloric obstruction, gave positive reactions to eggs, milk or cereals. I only mention this work for what it is worth. Cohen's comment is, "That allergy may be present and may be demonstrated in cases of infantile pyloric obstruction and that the physiological change in these cases is similar to that in allergy."

Incidence

The incidence of congenital hypertrophy of the pylorus is not accurately known. Ten years ago it was considered fairly rare. Today

it is estimated as occurring about once in 200 births. This figure is probably high and may include cases where no tumour has been proved to be present, but we know that this condition is no longer a rare one and any one who treats babies should be as conversant with its clinical picture as he is with that of appendicitis. The condition usually occurs in breast fed male children between the ages of 3 and 5 weeks; onset after six weeks is unusual and after eight weeks is rare. It may occur in one only of twins but in the case of twins, both are, I think, more commonly affected, and two or more cases are often reported in one family.

Physiology and Pathology

There is marked increase in the peristalsis of the stomach but in spite of this the gastric contents are unable to pass through the pyloric ring. One authority says that there is reverse peristalsis in the stomach, but as the peristaltic waves are so readily seen and are always going in the one direction, left to right, I think this is doubtful. The cause of the vomiting is purely mechanical. The stomach contracts, the pylorus is closed and there is only one open door, up the oesophagus.

The stomach becomes dilated, its walls thickened and its added weight causes a sagging which produces a kink at the pyloric antrum which still further interferes with the emptying of the stomach.

Wollstein, who has examined more pyloric tumours pathologically, both before and after operation, than perhaps anyone else, describes them as follows:—"The tumour is made up of greatly thickened circular muscle tissue, composed of the unstriped muscle cells but with no increase in the connective tissue fibres. Its gross appearance is that of hyaline tissue. The pyloric lumen is much reduced and may be almost completely obstructed. After operation, with division of the circular fibres, the wound heals in about 2 weeks. This healing is brought about by the growth of the serous and submucous layers, and after one to two years there is only a thin connective tissue line to mark the site of the wound.

Diagnosis

What I have to say on diagnosis will in part, at least, be more or less a repetition of what has already been said. Except for congenital atresias and malformations the only necessary differentiation is from the aforementioned pylorospasm, and I feel that it is only the theurapeutic test that will differentiate pylorospasm, which, after all, is spasmodic pyloric obstruction, from true hypertrophic congenital pyloric stenosis, which is of a combined spasmodic and organic origin.

The symptoms of the two conditions are identical except for one fact: A young baby, usually breast fed and thriving, suddenly commences to vomit. The vomiting is persistent and forcible, shortly there is marked constipation and loss of weight. The vomiting is characteristic, sometimes the food is shot out of the mouth for a distance of several feet. Remember that the symptoms always come on fairly suddenly in a baby that, whether breast or bottle fed, was thriving. This fact is most important, because if a baby is doing well and then begins to vomit

when there is no change in diet, it is almost certain to be one or other of these two conditions.

If the vomiting is not after every feeding the amount ejected will be greater than the amount of a feeding. Definite gastric peristaltic waves may always be seen. There is no fever and the infant usually remains hungry. There is a gastric retention which may be demonstrated by emptying the stomach three hours after feeding, or by X-Ray. Rarely is the X-Ray necessary, but if there is any doubt do not hesitate to use it.

I spoke of the signs and symptoms of these two closely allied conditions differing in only one thing namely, the presence or absence of the typical pyloric tumour. With a palpable pyloric tumour and visible peristalsis, diagnosis of a true hypertrophic pyloric obstruction is not a matter of opinion but is demonstrable; such a combination occurs in no other condition. How often are we able to palpate with certainty this tumour? There is a great difference of opinion in this matter and it is because one man says he can palpate these tumours in 100% of cases and because another man says he has given up trying to palpate them because he was unable to find them in nearly 100% of cases, that we have any argument as to the relative merits of medical and surgical treatment. In this controversy I still take the stand of my old chief Dr. Bolling. At times I have wavered but still feel, if sufficient time and care is taken, the tumour, if present, can be felt in the great majority of cases. In the New York Babies Hospital, on Dr. Bolling's service, no baby was operated upon unless the tumour was palpated by him and demonstrated to us, his interns. I want you to get this—with him, unless the tumour was felt, there was no operation. He took sometimes hours of time and was extremely patient and the baby was kept relaxed and quiet, but if after such an examination there was no tumour then there was no operation. I know, too, that in my service with him there were no babies dying without operation from pyloric obstruction. Like many other things, there is a big personal equation in ability to palpate pyloric tumours. Bolling knew he could feel them in 100% of cases. I only feel that I can palpate them in the majority of cases but I am convinced that those men who admit their inability to definitely demonstrate this tumour except occasionally, are being most unfair to themselves. One can make a true diagnosis of hypertrophic pyloric stenosis withous feeling the tumour, but only by the aid of our therapeutic test, of which I have spoken, and that means a delay of at least a few days. On the other hand, once the tumour is felt the diagnosis is certain.

Treatment

From what I have already said it is fairly evident where I stand as regards the proper treatment of this condition. Once the diagnosis is made and it is certain that the condition to be dealt with is one of hypertrophic congenital pyloric stenosis, the only treatment, in my opinion, is surgical.

If the tumour, however, can *not* be felt, then our therapeutic test must be applied, namely:—thick feeding and atropine—along with gener-

al means such as subcutaneous fluids, transfusions and external warmth. If the baby does not improve steadily, but continues to vomit and has visible peristaltic waves and apparent gastric retention, then also must we have recourse to surgery.

This last paragraph is really superfluous and a repetition, but once more, when the diagnosis is made, whether by palpation of the tumour or by the therapeutic test, operation is indicated. Unless the tumour can be felt, however, in all cases medical treatment should be instituted. Many cases will do well, stop vomiting and begin to gain, but as my whole paper indicates, I feel that if they do they are probably seldom or never true pyloric obstruction with its typical tumour formation, but rather the closely allied condition of pylorospasm.

The usual medical treatment is:—thick cereal feeding every three hours, fed with a spoon, plus atropine, 15 minutes before each feeding, starting with 1/1000 gr. to the dose and increasing it gradually up to the infant's tolerance. These babies are usually greatly dehydrated and frequent clyses of pain saline, or glucose and saline should be given as routine. Blood transfusions are often life saving, whether the case proves to be true pyloric stenosis or not. Certainly before operation one or two tranfusions should always be given. An operation is never a midnight emergency. These babies as I have just said, are usually, when first seen, dehydrated, more or less marantic and poor surgical risks. Even, therefore, if the diagnosis is made in the first examination, waves seen, history typical and tumour felt, do not rush the baby to the operating room but take one or two days or even longer to give the little patient a better chance to stand the shock of its operation.

Moore's work with Vitamin B, may prove a real discovery. It is possible that this condition is caused, as he suggests, by a lack of Vitamin B throughout one or more generations and that if concentrated Vitamin B, as in the form of yeast, is fed as a routine to nursing mothers, the present high incidence of the disease may be lessened. Moore found, as you remember, degeneration of the motor nerves to the pylorus and Barnett's theory as to why luminal should cure this condition, is based on that finding. Luminal is shown to be a central nerve depressor so he theorizes that the vomiting may be partly, at least, of central origin from excess nerve stimulation rather than purely mechanical, and thus the reason for its success.

So much for the medical treatment, and now briefly and not in great detail let us consider what surgery can do for this condition. The first consideration is to see to it that the baby is in as good condition as possible to stand the shock of an operation. The maintenance of body heat, before, during, and after operation helps to prevent surgical shock. While on the operation table, therefore, protect the child with plenty of hot water bottles and a warm room. Local anaesthesia is the one of choice. It requires a little more time and dexterity and often considerable patience but if at all possible will well repay the operator. The baby can usually be kept quite quiet by the continual use of sugar pacifiers. A small catheter may need to be passed several times during the operation into the stomach for the relief of gas.

Gastro-enterostomy was the surgical treatment in years gone by, but its resultant operative mortality was so high that the patient's life was seldom saved. Nowadays the Fredet-Rammstedt technique is the only one in common use. It consists of a right rectus incision above the umbilical level, the delivery of the pylorus through the peritoneal incision and a simple division of the hypertrophied muscular wall by an incision along the longitudinal axis of the pylorus, through all muscle tissue and down to the mucosa. This incision is then stretched until the mucous membrane is seen to bulge through the gap. After all bleeding has been stopped, either by heat or fine ligatures, the wound is closed carefully in layers. If the skin incision is high enough the liver will largely prevent any resultant herniae. The operation is simple but must be done gently and with considerable dexterity. There are several pitfalls, chief among them, perhaps, being the ease with which the mucosa may be incised, particularly on the duodenal end of the pyloric incision. On the whole it is not an operation to be attempted by the amateur surgeon or even by the trained surgeon who is not thoroughly initiated into its difficulties. The jobs that look the easiest by not being taken seriously often prove the most difficult, and if surgeons will take advise from paediatrists it will be to consider the simple Rammstedt operation worthy of their best efforts.

Post-operative care is as important even as the pre-operative preparation. I carry out the routine of the New York Babies Hospital, which is essentially a gradually increasing schedule of breast milk, if possible, or a suitable formula and water. The first feedings should be very small, only a few c.cs. to be increased by a few ccs. each feeding. The baby usually may be returned to the breast in a week's time. If there is post-operative vomiting, as sometimes happens, it is wise to continue thick cereal and atropine until gastric retention becomes normal. If a case vomits persistently after operation it is probable that all the muscular coat was not divided and a second operation may be necessary.

Prognosis

The longer the baby vomited before suitable treatment was instituted, the worse the prognosis. Thus a definite prognosis can be given, based upon the loss in body weight from the time of onset of symptoms. If this weight loss is 20% the prognosis is only fair; if over 20% it is poor. This is the reason why every operator gives a different mortality. I helped compile a series of 454 successive cases at the Babies Hospital which gave a mortality of 15%. These cases were not picked but were taken as they came and all operated upon by Bolling, put through our routine, and fed breast milk, if we could get it. The majority of them, when first admitted, were much underweight, many even marantic, and so I feel that a 15% mortality is quite as high as it should be.

In the year before his death, Dr. Bolling, in a series of about 70 cases, cut his mortality down to 10% by a more intensive pre-operative preparation, which essentially was more frequent blood transfusions.

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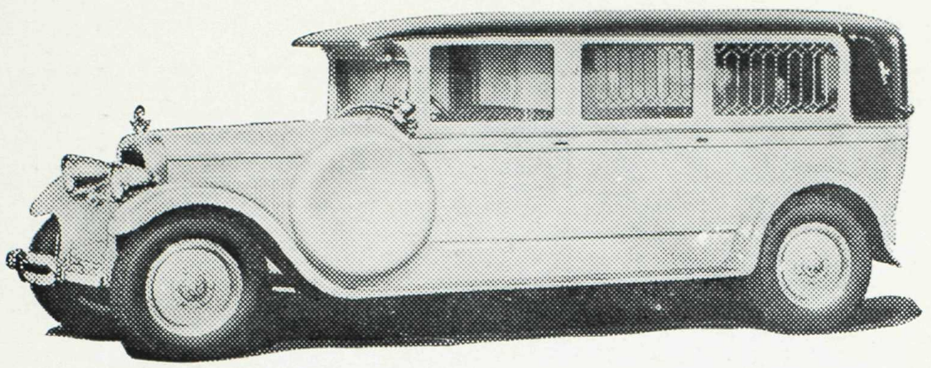

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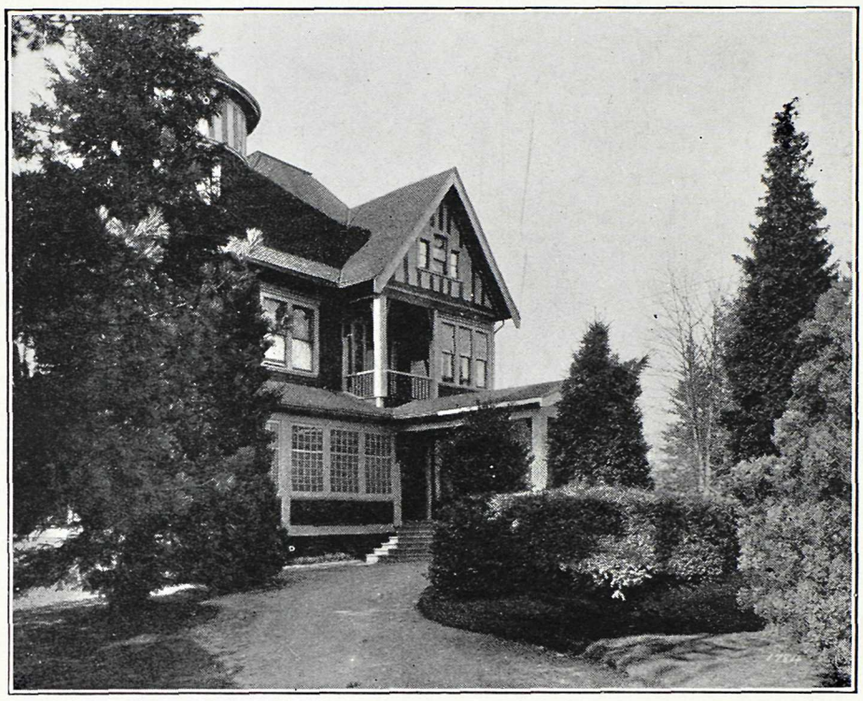

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