# THE VANCOUVER MEDICAL ASSOCIATION

# BULLETIN

Published monthly at Vancouver, B. C.

*V. G. H. Staff*

*Salicin*

*Intravenous Therapy*

JANUARY, 1926

*Published by*
*McBeath Spedding Limited, Vancouver, B. C.*

A few distinctive features of

# Petrolagar

(Deshell)

PETROLAGAR (*Deshell*) *is a corrective, not a cathartic. It forms no habit, permitting decreasing instead of increasing dosage and may be discontinued when regularity is established.*

Its oil content is the greatest—65% mineral oil of the highest quality. This means maximum lubricating power and is of paramount importance.

The oil being emulsified, leakage is practically eliminated.

Agar is the sole emulsifying agent used—no fermentative gums or soaps. Petrolagar (Deshell) is particularly palatable, more like ice cream thus making the physician's task easier; both children and adults find it pleasant to take. Three years of satisfactory results in clinical usage solely under physicians' prescriptions, prove conclusively the therapeutic value of Petrolagar (Deshell).

*PETROLAGAR (DESHELL) IS ADVERTISED ONLY TO PHYSICIANS*

## Petrolagar
(*Plain*)

No 1 Blue Label

The palatable emulsion of pure mineral oil and agaragar is indicated in the ordinary cases of constipation and as a follow up in severe cases when Petrolagar Phenolphthalein has been previously used.

## Petrolagar
(*Phenolphthalein*)

No. 2 Red Label

Phenolphthalein ¾ gr. to the tablespoonful, is indicated in severely constipated individuals who have used drastic purgatives. We recommend reducing to Plain after one or two bottles.

## Petrolagar
(*Alkaline*)

No. 3 Green Label

Contains magnesia calcined and is indicated in hyperacidity and acidosis, and is extremely useful in gastric ulcer where constipation is present.
Useful in Pyorrhea and acid-mouth.

## Petrolagar
(*Unsweetened*)

No. 4 Brown Label

Indicated for those who do not like sweets and may be prescribed safely for Diabetic patients. It is bland like the other numbers and while unsweetened, is unusually palatable.

*The principle of lubrication and bulk calls for the usage of Petrolagar Plain in all cases unless special considerations indicate one of the other forms.*

---

Deshell Laboratories of Canada, Limited, Dept. V.,
245 Carlaw Avenue, Toronto, Canada.

Please send without obligation, copy of Habit Time and samples of Petrolagar.

Dr. .....

Address .....

.....

THE VANCOUVER MEDICAL ASSOCIATION

# BULLETIN

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

Offices:
529-30-31 Birks Building, 718 Granville St., Vancouver, B. C.

Editorial Board:
DR. J. M. PEARSON
DR. J. H. MACDERMOT DR. STANLEY PAULIN

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

VOL. 2. JANUARY 1st, 1926 No. 4

## OFFICERS, 1925 - 26

DR. J. A. GILLESPIE
President

DR. A. W. HUNTER
Vice-President

Past President
DR. H. H. MILBURN

Secretary
DR. G. H. CLEMENT

Treasurer
DR. A. B. SCHINBEIN

## TRUSTEES

DR. W. F. COY DR. W. B. BURNETT DR. J. M. PEARSON

Representative to B. C. Medical Association
DR. A. J. MACLACHLAN

Auditor
DR. A. C. FROST

## SECTIONS

*Clinical Section*

DR. W. L. PEDLOW - - - - - - - Chairman
DR. F. N. ROBERTSON - - - - - - - Secretary

*Physiological and Pathological Section*

DR. G. F. STRONG - - - - - - - Chairman
DR. C. H. BASTIN - - - - - - - - Secretary

*Eye, Ear, Nose and Throat Section*

DR. COLIN GRAHAM - - - - - - - Chairman
DR. E. H. SAUNDERS - - - - - - - Secretary

*Genito-Urinary Section*

DR. G. S. GORDON - - - - - - - Chairman
DR. J. A. E. CAMPBELL - - - - - - Secretary

*Physiotherapy Section*

DR. H. A. BARRETT - - - - - - - Chairman
DR. H. R. ROSS - - - - - - - - Secretary

## COMMITTEES

*Library Committee*

DR. WALLACE WILSON
DR. A. W. BAGNALL
DR. W. D. KEITH
DR. W. F. MCKAY

*Orchestra Committee*

DR. F. N. ROBERTSON
DR. J. A. SMITH
DR. L. MACMILLAN
DR. A. M. WARNER

*Dinner Committee*

DR. G. F. STRONG
DR. W. A. DOBSON
DR. L. H. APPLEBY

*Credit Bureau Committee*

DR. LACHLAN MACMILLAN
DR. J. W. WELCH
DR. G. A. LAMONT

*Credentials Committee*

DR. LYALL HODGINS
DR. R. CROSBY
DR. J. A. SUTHERLAND

*Summer School Committee*

DR. G. S. GORDON
DR. MURRAY BLAIR
DR. W. D. KEITH
DR. G. F. STRONG
DR. H. R. STORRS
DR. R. CROSBY

VANCOUVER MEDICAL ASSOCIATION.

Founded 1898. Incorporated 1906.

# Programme of the 28th Annual Session

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 Agenda.

General Meetings will conform to the following order:—

8.00 p.m.—Business as per Agenda.
9.00 p.m.—Paper of Evening.

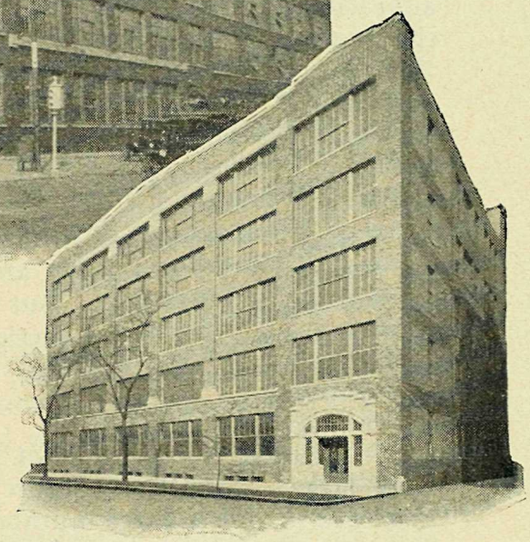
1925.

| | |
|---|---|
| OCTOBER 6th— | *General Meeting.*<br>Presidential Address: DR. J. A. GILLESPIE.<br>"The Progress and Future of Medicine." |
| OCTOBER 20th— | *Clinical Meeting.* |
| NOVEMBER 3rd— | *General Meeting.*<br>Paper: DR. HIBBERT WINSLOW HILL.<br>"The Part Played by the Laboratory in Clinical Medicine." |
| NOVEMBER 17th— | *Clinical Meeting.* |
| DECEMBER 1st— | *General Meeting.*<br>Paper: DRS. WALLACE WILSON and LYALL HODGINS.<br>"Intravenous Therapy." |
| DECEMBER 15th— | *Clinical Meeting.* |

1926.

| | |
|---|---|
| JANUARY 5th— | *General Meeting.*<br>Paper: DR. G. F. STRONG.<br>"Cardiac Pain." |
| JANUARY 19th— | *Clinical Meeting.* |
| FEBRUARY 2nd— | *General Meeting.*<br>Papers: DR. J. TATE MASON, of the Mason Clinic, Seattle.<br>"Surgical Treatment of Thyroid Diseases."<br>DR. LESTER J. PALMER, of the Mason Clinic.<br>"Some Phases of the Diabetic Situation."<br>DR. MASON will probably give a Clinic at the V.G.H. on the morning of Feb. 2nd. |
| FEBRUARY 16th— | *Clinical Meeting.* |
| MARCH 2nd— | *General Meeting.*<br>The OSLER LECTURE. DR. E. D. CARDER. |
| MARCH 16th— | *Clinical Meeting.* |
| APRIL 6th— | *General Meeting.*<br>Urological Evening. DRS. B. H. CHAMPION, G. H. CLEMENT, G. S. GORDON, and A. W. HUNTER, on<br>"Problems in Urological Diseases." |
| APRIL 20th— | *ANNUAL MEETING.* |

*156,000 square feet (over 3½ acres) of floor space devoted to the scientific manufacture of X-Ray and Physical Therapy apparatus. This is a view of the Victor plant as a whole. Arrow points to most recently completed unit.*



*Close-up of the latest addition to the headquarters of Victor X-Ray Corporation in Chicago. The first three floors will be occupied by the general offices, educational departments and display rooms. The two upper floors add 20,000 square feet for manufacturing purposes, plus another 20,000 square feet as vacated by the general offices on removal from the old building.*

# Ready for 1926!

This modern five story, reinforced concrete building is the latest addition to the Chicago plant of Victor X-Ray Corporation.

The Medical and Dental professions are responsible for this. Because of their increasing demands for Victor X-Ray and Physical Therapy apparatus, it became imperative that our already extensive manufacturing facilities would have to be enlarged in order to meet them. Obviously, it would be poor judgment to overcrowd production facilities and hope to retain that quality which has led to world recognition of Victor products as the standard in scientific design, construction and finish.

The confidence placed in us by the Medical and Dental professions is our greatest asset, and these increased facilities to meet their needs in electro-medical equipment is our tribute to that confidence. The same sincere efforts in research and manufacturing activities, to the end that only the best that is scientifically possible to produce emanates from our specialized organization, is the renewed Victor pledge for 1926.

**VICTOR X-RAY CORPORATION: 2012 Jackson Blvd., Chicago, Ill**
**33 Direct Branches—*Not Agencies*—Throughout U. S. and Canada**

VICTOR X-RAY CORPORATION OF CANADA, LTD.
**Vancouver Branch - 910 Birks Bldg.**

X-RAY
*Diagnostic and Deep Therapy Apparatus. Also manufacturers of the Coolidge Tube*

VICTOR

PHYSICAL THERAPY
*High Frequency, Ultra-Violet, Sinusoidal, Galvanic and Phototherapy Apparatus*

## EDITOR'S PAGE.

It is a matter for regret that the Board of Directors of the General Hospital was unable to accede to the suggestions of the Medical Association regarding the appointment of the visiting staff. The time at its disposal was too short to arrange for an alteration in the by-law to allow the new staff to take office at the beginning of the year.

We think the ideas of the Medical Association were good, and if adopted would at least have opened the way to an improved service. An improved service that should have been of benefit to the Hospital, the Medical profession, and the Patients.

Some years ago the interest of the medical world was focussed on the Hospital as a large and successful example of the system of the "open hospital." But we think that by now that reputation must be wearing a little thin. It still remains to enquire what contribution a hospital of this nature can make to the general advance of medical science?

We have to confess that up to date this contribution has not been large. Something more is evidently required than a great institution and a large number of patients. A staff reorganized along the lines suggested by the Medical Association might have succeeded in utilizing and arranging the vast mass of clinical material which is constantly to be found in the hospital, and producing something in the way of research of value to science and of credit to the institution.

As we have pointed out before, the ease and satisfaction with which the Directors are able to fill the indoor positions in the Hospital, from General Superintendent to Interne, depends in the long run upon the standing of the Hospital in the medical world.

Every piece of substantial work of a scientific nature which is turned out of the Hospital is reflected in the enhanced reputation of the institution. Anything, therefore, which lends itself to this end is worthy of the most earnest consideration. We hope that, during the next three years, plans will be perfected to permit of this reorganization. We scarcely think that the question of "limitation" of practice need be an insurmountable obstacle. If this requirement serves to push some long-hesitating brother into a decision, which perhaps ought to have been made long ago, it may indeed prove a blessing in disguise.

* * *

The BULLETIN has decided, with the approval of the Executive, to open its advertising columns to those members engaged in certain definite branches of work. Advertisements will be accepted from Clinical or Pathological Laboratories in charge of medical men, from physicians doing X-ray work exclusively, and from Physio-Therapy Institutions in charge of a qualified man confining himself to that line of work.

Advertising rates may be obtained on enquiry at the offices of the BULLETIN, or from the Publishers, Messrs. McBeath, Spedding & Co., 569 Howe St.

* * *

It remains for us to wish our readers all the Compliments of the Season. We shall hope that you have enjoyed the Christmas festival.

Although the excitement incident to the time when we were very young may no longer be with us, we can rejoice in the little halt in the world's activities which allows an expression of good-will to all men and some endeavor to give it practical effect. We wish you all a Happy New Year, moderately prosperous as befits a wise man, with scope and will and strength to do your work and to do it well.

* * *

## NEWS AND NOTES.

The medical profession, equally with the general public, was shocked by the recent tragic death of Miss Ann Roedde, following an attack on her while pursuing her regular duties as nurse at the Vancouver General Hospital. An impressive funeral service was held at St. John's Church and was attended by a large body of her fellow nurses, members of the medical profession, and the general public.

Dr. Alex. Monro recently left for Rochester, Baltimore, and New York. While away he hopes to get some relief from the sciatica which has more or less incapacitated him for the past year. We are glad that reports received before going to press indicate that he is improved.

Dr. J. J. Mason has recently enjoyed a short trip to Rochester and New York.

Dr. Fred Robertson left on Christmas Day for Ontario to visit his relatives. He expects later to proceed to New York for a month's post-graduate study.

Dr. T. B. Anthony and Mrs. Anthony are holidaying in Southern California.

## MEDICAL MEETINGS.

The general meeting of the Vancouver Medical Association was held on Dec. 1st, at 8 p.m. The Summer School Committee announced the probability of the 1926 session being held in September, in order not to conflict with the annual meeting of the Canadian Medical Association in Victoria, and to allow of co-operation with the post-graduate education scheme of that body. The Dinner Committee announced a credit balance of $57.48 accruing from this year's annual dinner. Dr. W. W. Chipman was unanimously elected to membership in the Association. Drs.

Wallace Wilson and Lyall Hodgins gave interesting and instructive papers on "Intravenous Therapy," which appear in this issue.

A general meeting of the Association was held in the Auditorium, Tenth and Willow St., on December 10th, 1925. A resolution passed by the Board of Directors of the Vancouver General Hospital, stating its inability to accede to the request of the Association that the appointment of the visiting staff be deferred, was received and discussed. A resolution was then passed amending the by-laws to allow the nominations and election to be brought on immediately. The President announced that nominations must be in by December 15th, and that voting by the Association would take place on December 22nd, at 8 p.m.

The December meeting of the Clinical Section was held on Dec. 15th, at the General Hospital, to hear Drs. D. J. Miller, J. Nay and G. B. Murphy speak on Workmen's Compensation matters.

Dr. Miller dealt principally with the Act, showing how the employer and employee are benefited. The employer is freed from liability. The workman receives 62½% of his wages and medical attention. In case of death his dependants receive benefit and $100.00 funeral expenses.

The Board is in the position of a court into which money has been paid. They must have all the facts before judgment can be given. Proof of accident is indispensable, or the workman receives no benefit. This rules out occupational injuries, e. g., an injury caused by continued irritation. Occupational diseases are not ruled out, however, such as anthrax, lead, mercury or arsenic poisoning, cedar poisoning, dermatitis from cement, and caisson disease, when occurring in specified occupations.

What is an accident? This is defined by law.

"The nature of disability" as asked for in the reports, calls for a thorough examination. The history of the accident should be inquired into, as sometimes the major injury is at first overlooked.

"The period of disability" should be easy to decide, but the profession falls down on this more than on any other point. A fairly safe rule to use as a guide is, if there are no objective signs after complete examinations made at different times, very little attention should be paid to subjective ones. If a patient ceases to improve under treatment, it should be reported, so that the Board may make some settlement.

Expenses depend upon the profession, and doctors must be guided by what they would do for the patient if he himself paid the bill. The surgeon should ask himself, "Does this man really require this service?"

Dr. Murphy dealt with specific cases, but before touching these he explained something of how the Board works and what happens when a workman is injured and reports begin to come in.

One of the largest departments of the Board is the Claims Department. Proper reports are necessary or the claim cannot be properly handled. Claims are divided into various classes; some of these are active claims, no time loss claims, suspended, partial payment claims, and rejected claims. Suspended and rejected claims may be due to: No proof of accident, failure to report, or no application from the workman.

In rejected claims there is a reason not always obvious to the parties interested. About 75% of reductions of doctors' fees are for want of sufficient information. A few are due to misunderstanding of the schedule of fees. Hospital fees can only be paid when the case really demands hospital care.

Dr. Murphy read many actual reports which indicated the sort of mistakes made and which led to misunderstandings.

In one case the doctor said the man would be off three weeks. The man was at work in three days. Another case of a fractured foot, where the fee is set by the schedule, the doctor's bill was disallowed, as he had charged for visits made. Another doctor had put in a bill for transporting the injured man in his car. The employer is supposed to supply transportation, so the doctor's bill was reduced. Another doctor, treating a case of a lacerated finger, charged for surgery, house, office and night visits. His bill was disallowed till he explained that the man was confined to bed with influenza. The matter of changing doctors also was illustrated. This cannot be done without the Board's sanction, and in a case cited the second doctor received no pay.

Dr. Nay took up the subjects of strained back, hernia, and neurasthenia.

Strained backs are mostly myalgic, and as such cannot be allowed. There must be an accident. If a man is seized with a pain in the back while doing his regular work, and nothing unusual has happened, it cannot be termed an accident.

Hernia is not generally allowed. Traumatic hernia is exceedingly rare. It is generally a congenital or an occupational condition. In these cases the hernia is allowed if some special strain can be shown.

Neurasthenia was dealt with at some length. Dr. May showed that much could be done to prevent it. It is usually seen in head and spine injuries, especially if told that they have a "broken back." The patients brood over this till they believe they are hopeless cripples. Assurance by the doctor in the early stages is most necessary.

Neurasthenia is divided into anxiety, spinal and hysterical types. In anxiety neurasthenia there is headache, insomnia, tremor, loss of appetite, pain at the seat of injury. They blink their eyes and look anxious. There is nothing to be found.

In spinal type, "My poor back" people, they walk with a cane and hold their backs. The spine is tender, but nothing is found.

In hysterical type, paralysis and paresis develop.

The discussion was opened by Dr. Whitelaw. Speaking of X-ray examinations of the head, he thought more plates than one lateral view should be taken. Short fractures would not so easily be overlooked. The spine should also be examined in different positions. A fractured wrist is sometimes difficult to demonstrate and may lead to some future trouble.

Dr. F. P. Patterson said that in lumbo-sacral injuries the period of disability was hard to estimate. Some joint injuries are also difficult. Fractures involving nerve injury may not show up the nerve lesion till a later date. These may be caused by the injury, manipulation, or by splints.

Dr. Riggs said head injuries may be very serious without any fracture. Injury to the brain substance is more serious, either concussion, haemorrhage or oedema, and may be the cause of a condition which has been diagnosed as neurasthenia.

A vote of thanks to the three doctors was moved by Dr. Duncan, and replied to by Dr. Miller.

* * * *

## SALICIN CONTENT OF BRITISH WILLOWS.

*By* R. H. CLARKE *and* K. B. GILLIE.
*Department of Chemistry, University of British Columbia, Vancouver.*

(Reprinted from the American Journal of Pharmacy, Sept., 1921.)

### SALICIN.

Salicin [ortho-hydroxy-benzyl-glucoside, $C_6H_4(OC_6H_{11}O_5)$-$CH_2(OH)$], was one of the first natural glucosides to be discovered. It occurs in most, but not all, species of willow and poplar bark. It is hydrolysed by mineral acids and by emulsin of almonds, to dextrose and o-hydroxy-benzyl alcohol. As determined by this enzyme action, salicin must be a glucoside. Populin, another glucoside, also occurs in the leaves and bark of poplars. It is not, however, hydrolysed by emulsin of almonds. On the other hand, it may be hydrolysed by barium hydrate to benzoic acid and salicin. Salinigrin, a third glucoside, has been found in only one species of willow, Salix discolor. Helicin, a glucoside isomeric with salicin does not occur naturally.

The bark from the following species, Salix Nuttallii, Salix Hookeriana, Salix sitchensis, Salix lasiandra, Salix purpurea, Populus trichocarpa and Populus tremuloides, were analysed. We wish to thank Professor John Davidson for his kindness in providing the various samples.

## METHOD OF ANALYSIS.

The bark was dried for forty-eight hours at a temperature of about 110 degrees. Two samples of each, weighing twenty grams, were taken, and digested separately for three hours with boiling water and the solution filtered. Two grams of lead acetate were then added to the filtrate to precipitate the proteins, which were removed by filtration. The excess of lead was then precipitated by the addition of the required amount of sulphuric acid, and the liquid filtered. To this filtrate was added 100 cc. of the emulsin of almonds solution, and the mixture allowed to stand sixty hours, at which time the solution was diluted to two litres and two portions of 100 cc. were taken for analysis with Fehling's solution. The weight of glucose present being found by reference to Munson and Walker's tables. One mole of salicin gives on hydrolysis one mole of glucose.

The emulsin of almonds solution was prepared from sweet almonds, from which the oil had been pressed, as follows: The press cake was macerated for twenty-four hours with water, to which a small amount of chloroform was added. The mixture was then strained through a cloth and two drops of acetic acid were added per 100 cc. of the liquid for the precipitation and removal of the proteins. To the filtrate was then added an equal volume of alcohol, 50 cc. at a time, which caused the enzyme to come down as a fine precipitate, which was filtered off, washed with alcohol and immediately de-dissolved in water, to which a small amount of toluene had been added. The solution of emulsin of almonds so obtained was tested by treating solutions containing known amounts of pure salicin. It was found that the hydrolysis was complete after sixty hours. The results obtained were correct to within less than 1 per cent.

As is seen from the following table of determinations, the duplicate analyses are in close agreement, whilst the salicin content of the various species of willow and poplar show a considerable variation. Likewise the spring samples in most cases run higher than the corresponding fall samples, in the cases of Salix Hookeriana and Salix sitchensis a most notable difference was found.

## TABLE OF ANALYSES.

| | FALL SAMPLES. | | | SPRING SAMPLES. | | |
|---|---|---|---|---|---|---|
| *Species* | (1) Per Ct. | (2) Per Ct. | Av'g. Per Ct. | (1) Per Ct. | (2) Per Ct. | Av'g. Per Ct. |
| Salix Nuttallii | 3.88 | 3.92 | 3.90 | | | |
| | | | | 4.47 | 4.51 | 4.49 |
| Salix Hookeriana | 0.79 | 0.84 | 0.81 | 5.18 | 5.00 | 5.09 |
| Salix sitchensis | 2.68 | 2.92 | 2.80 | 7.32 | 7.43 | 7.38 |
| Salix lasiandra | 2.45 | 2.55 | 2.50 | 2.50 | 2.53 | 2.51 |
| Salix purpurea* | ----- | ----- | ----- | 3.78 | 3.88 | 3.83 |
| Populus trichocarpa | 0.95 | 0.96 | 0.955 | 3.83 | 3.89 | 3.86 |
| Populus tremuloides | 3.80 | 3.74 | 3.77 | 2.42 | 2.48 | 2.45 |

It might be pointed out that there is a large quantity of bark at present annually available at the Vancouver basket factory. In addition there is a very large supply of native willow on the lower mainland of the province and on Vancouver Island.

* * *

## ANALYSIS OF THYROID CASES

### TREATED IN ST. PAUL'S HOSPITAL FOR TWO YEARS ENDING OCTOBER, 1925.

*Report to the Staff of St. Paul's Hospital, compiled by Dr. C. E. Brown.*

There were forty-one cases in all admitted to the Hospital for treatment of a thyroid condition during the two-year period. Of these five were treated non-surgically and thirty-six surgically.

Five cases treated non-surgically:

One died after four days in hospital. The final diagnosis in this case was cholecystitis and hyperthyroidism. The patient was a woman of 36, giving a history of indigestion for years, nervousness and palpitation. The nurse's notes show continuous vomiting with a pulse always under 100. A slight enlargement of the thyroid is noted. No basal metabolism recorded. There is no apparent evidence of a thyroid death in this case.

Two had X-ray treatments. One of these, a woman of 54, with moderate enlargement of the thyroid for the past 14 years, nervous, irritable, depressed, choking sensations, B. P. 160-90, P. 68-88, no B. M., diagnosis hyperthyroidism. Results of treatment not noted. The other case, a woman of 29, palpitation, weakness, fainting, rapid irregular pulse 90-120, enlarged left lobe (right lobe previously removed at operation), B. M. + 33 and + 47, diagnosis exophthalmic goitre, discharged slightly improved, pulse 124.

Two cases, one diagnosed hyperthyroidism and the other exophthalmic goitre, were given iodine and both discharged slightly improved.

Thirty-six cases treated surgically:

The diagnoses given in these cases were as follows:

Adenoma 10, toxic adenoma 7, exophthalmic goitre 11, exophthalmic goitre with adenoma 2, toxic goitre (unclassified) 4, toxic adenoma with malignancy 1, colloid goitre 1.

Three of these were subjected to a ligation operation only, and were as follows:

(1) A woman, 38, with dizziness, exophthalmos, thyroid showing bilateral enlargement, pulse rapid and irregular, no B. M. recorded. Diagnosis on chart, toxic goitre; operation, ligation of superior thyroid arteries. Discharged improved.

(2) A woman, 54, with enlarged thyroid of two years' standing, nervousness, tremor, rapid heart, P. 120, thin, anaemic, no B. M. recorded. "Thyroid" artery had been tied a year ago. Diagnosis, toxic goitre; operation, ligation of "thyroid" artery. In hospital ten weeks, discharged still nervous and pulse rapid.

(3) A woman, 50, goitre of eight years' duration, severe palpitation, nervousness, weakness, sweating, dyspnoea, vomiting, irregular heart. Symptoms commenced after empyema operation three years previously. Pulse 140, B. P. 200, no diastolic limit, general condition poor, thin, pale, exophthalmos, well marked, symmetrical enlargement of thyroid passing behind sternum, rales in chest, marked tremor and nervousness, B. M. + 53. Ligation right superior thyroid; death three weeks later; diagnosis, exophthalmic goitre.

The remaining 33 cases were all subjected to operations on the gland, which varied from lobectomies to sub-total thyroidectomies and bilateral partial lobectomies. In a good many no description of the type of operations done was given.

In only one case was the operation preceded by a preliminary ligation of an artery, and in this case, one of exophthalmic goitre, one superior thyroid artery had been tied several months previous to a sub-total thyroidectomy.

Of these 33 thyroidectomy cases there was one death. The patient, a man, 51, with dyspnoea, swelling of legs, nervousness, loss of weight, insomnia, palpitation, enlarged heart following history of rheumatic fever, large adenomatous goitre, B. M. + 47. Partial removal of thyroid, with death on the following day. Section of thyroid showed adenoma with carcinoma.

Of the 36 operated cases one surgeon had 15 cases and no deaths. The balance was under the care of 15 different surgeons, 10 of whom attended one case each.

The operative reports were very meagre on practically all cases, the history sheets in some cases were complete but many were extremely vague and incomplete. The basal metabolic rate was not recorded on many of the toxic cases, though no doubt a number had been done previous to admission to hospital. Very few specimens taken at operation were reported on by the laboratory. This has been remedied and all specimens in future will be examined routinely.

The results following thyroidectomy, according to the information on the charts, have been good, the cases, with the one exception, being discharged "improved" or "good."

The terms "toxic goitre" and "hyperthyroidism" we believe, might be eliminated from the final diagnosis if a little more care were taken with the history, physical examination, operative findings and laboratory reports.

# CITY HEALTH DEPARTMENT.

VANCOUVER, B. C.

---

## STATISTICS — NOVEMBER, 1925.

| | |
|---|---|
| Total Population (estimated) | 126,747 |
| Asiatic Population (estimated) | 9,960 |

| | | Rate per 1000 of Pop. per Annum |
|---|---|---|
| Total Deaths | 116 | 11.1 |
| Asiatic Deaths | 12 | 14.7 |
| Deaths—Residents only | 85 | 8.2 |
| Total Births—Male, 125 Female, 134 | 259 | 24.9 |
| Stillbirths—not included in above | 13 | |

*Infantile Mortality—*

| | |
|---|---|
| Deaths under one year of age | 10 |
| Death Rate per 1000 Births | 38.6 |

### CASES OF INFECTIOUS DISEASES REPORTED.

| | *October.* | | *November.* | | *Dec. 1 to 15* | |
|---|---|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths |
| Smallpox | 2 | 0 | 0 | 0 | 0 | 0 |
| Scarlet Fever | 16 | 0 | 28 | 0 | 10 | 0 |
| Diphtheria | 16 | 3 | 31 | 2 | 7 | 0 |
| Chicken-pox | 24 | 0 | 20 | 0 | 5 | 0 |
| Measles | 0 | 0 | 0 | 0 | 1 | 0 |
| Mumps | 49 | 0 | 101 | 0 | 44 | 0 |
| Erysipelas | 4 | 1 | 2 | 0 | 0 | 0 |
| Tuberculosis | 9 | 9 | 11 | 10 | 1 | 0 |
| Whooping Cough | 3 | 0 | 5 | 0 | 1 | 0 |
| Typhoid Fever | 4 | 0 | 3 | 1 | 2 | 0 |
| Cases from outside City—included in above: | | | | | | |
| Diphtheria | 3 | 1 | 8 | 2 | 0 | 0 |
| Smallpox | 0 | 0 | 0 | 0 | 0 | 0 |
| Scarlet Fever | 5 | 0 | 8 | 0 | 5 | 0 |
| Typhoid Fever | 2 | 0 | 1 | 0 | 1 | 0 |

## LIBRARY NOTES.

(*The Library is situated in* 529-531 *Birks Building, Granville Street, Vancouver. Librarian: Miss Firmin. Hours:* 10 *to* 1 *and* 2 *to* 6.)

This month Drs. J. E. Campbell, F. C. McTavish and W. S. Turnbull have given us reviews of books recently added to the Library, and Drs. C. H. Vrooman and D. E. H. Cleveland have forwarded extracts from current journals in the Library. Both extracts are of interesting articles on different phases of tuberculosis. Dr. Keith's interesting note on gifts of old books to the Library brought Hippocrates to the attention of the Committee, and a copy of his writings, translated into excellent English, has been ordered. The translation is by Jones, and is published in the Loeb Classical Library.

ARS LONGA, VITA BREVIS EST.

A niche in our Library is given to the History of Medicine. A niche which we trust will grow and become quite a treasure house for the medical philologist. Our Library possesses a grand old volume, "The Oeconomia" (printed in Geneva in 1657, appeared first in Frankfurt in 1588), which was secured through Dr. G. S. Gordon's activities. It contains something of the writings of the Deus Medicus. The September number of the *Bulletin* of Johns Hopkins Hospital contains a most interesting paper entitled "Hippocrates," by Dr. John Rathbone Oliver. From this I quote:—

"Modern scholars are fairly in accord nowadays in believing that our Hippocratic Corpus represents the remains of a Medical Library, the Medical Library of the great Medical School at Cos. Such a Library would evidently contain books by the greatest of its teachers, Hippocrates, not only complete treatises, but his clinical notes or his headings for lectures. Then other important physicians of other schools would naturally send copies, 'presentation' copies, of their publications to the Coan Library."

—W. D. K.

* * * *

## BOOK REVIEWS.

"*Common Infections of the Female Urethra and Cervix.*" By Frank Kidd, F.R.C.S., and A. Malcolm Simpson. Oxford Medical Publication. Oxford University Press. London and Toronto. 1924. 7s. 6d.

It gives one almost a shock in reading the opening chapter of this book, to find that so much fervour is spent on the necessity of getting away from the traditional Sims' position in examining women, and some gratification to realize that to us it is meaningless.

Mr. Kidd is anything but a philosophical writer in that he combines lucidity and an almost appalling certainty, but as he is essentially a teacher and a propagandist, and his main insistence is on the paramount importance of a meticulous examination, certainly no one can fail to be impressed with what he has to say. In addition to his faith he has hope.

Frankly he is eminently sane, and several of his statements are of decided interest. He seems to have unbounded faith in antiseptics, of which potassium permanganate holds the first place. He implies that the urethra and cervix are infected at the same time, but seems to give the urethra more honour than it deserves, while he makes the categorical statement that gonorrhoea does not travel to the tubes, the endometrium acting as a barrier, until the case has been complicated by pregnancy. Therefore gonorrhoea does not cause absolute sterility, only one-child marriages.

He is comfortingly definite on the Schwartz or complement fixation test, which he discards, and equally sceptical of vaccines.

It is certainly a most useful book on gonorrhoea in women and most pleasing, especially when our ideas coincide.

—J. E. C.

* * *

'*The Advance of Orthopaedic Surgery.*" A. H. Tubby. Cloth, 7s. 6d. net. Pp. 144 with 31 illustrations. Lewis & Co., London. 1924.

This is a compilation, in book form, of six articles previously published by the author in the *Clinical Journal*. He draws attention to the wonderful progress which has been made in this special branch of surgery during the last thirty years, but more especially during the period since the outbreak of the Great War in 1914. This distressing experience provided a tremendous number and variety of this class of case, to which surgeons throughout the whole world devoted their best abilities and skill.

Chapters deal with: "Congenital and Growth Deformities," "Static and Postural Conditions," "Infantile and Spastic Paralysis," "Reconstructive, Regenerative and Re-creative Surgery," and "Re-education: The Problem of Cripples: The Teaching and Future of Orthopaedic Surgery."

In these Mr. Tubby emphasizes the many well recognized and accepted orthopaedic principles which now guide the leaders in this work. He draws his conclusions from his own experiences in a long and extensive practice of this specialty, as well as from the experiences of others practicing in his own country, on the continent, but more particularly those in America.

In conclusion, this little book is a resumé of progress made, up to the present time, in the above named subjects, and is well worth study. The "Bibliography" at the end of each chapter is most exhaustive and helpful to anyone wishing to follow up the subject.

—F. C. McT.

*Appendix* (1925) *to Gynaecological and Obstetrical Monographs.* Published by Appleton & Company, London, 1925. 12s. 6d.

To those who have read the original monographs, the appendix comes as a very welcome addition. The monographs, up to the time of publication three years ago, covered these subjects in the most practical and complete manner of any work up to that time. The appendix covers the work done since that time, and presents the progress that has been made in very concise form.

Outstanding contributions are those on "Menstruation and Its Disorders," "Pelvic Neoplasms," "Toxaemias of Pregnancy," and "Complications of Pregnancy." Perhaps in no phase of gynaecology has more original and exhaustive work been done than in that of the neoplasms, and while much of the information given is statistical, nevertheless it represents considerable progress.

The toxaemias of pregnancy, especially with reference to the etiology, make interesting reading, while progress is apparent in the treatment. The complications of pregnancy, other than the toxaemias, affords valuable information for those doing obstetrics.

It affords some satisfaction to know that much of the complex and unsatisfactory treatment advocated a few years ago in many pelvic conditions, has been discarded.

On the whole this book is a real addition to an already valuable work by outstanding men.

—W. S. T.

* * *

## ABSTRACTS.

### American Review of Tuberculosis, October, 1925.

*"The Effect of Mercurochrome in Experimental Tuberculosis of the Rabbit."* H. J. Corper, Saul Mebel, and Rose Silver.

Numerous personal requests for information as to the possibility of using mercurochrome in tuberculous empyaemata and in tuberculous pulmonary cavities, as well as by intravenous injection for tuberculosis, prompted this study.

In tuberculosis De Witt has found that mercurochrome-220 inhibits the growth of tubercle bacilli in glycerol-agar completely in a dilution of 1-5000 and partially at 1-10,000. In dilutions of 1-100, *but not in higher dilutions*, it killed the tubercle bacillus in 24 hours so that it would not infect guinea pigs.

The local tissue toxicity of mercurochrome was determined in normal dogs by intracutaneous, intratracheal and intrapleural injections.

*Intracutaneously* various dilutions were tried, and it was found that the injection of 0.2 cc. of concentration as low as 0.5% of mercurochrome resulted in marked tissue destruction, and 0.1 or 0.5% solutions produced evident though only transient pathology with tissue changes.

*Intratracheal Injections.* 5 cc. of 0.5% mercurochrome produced areas of acute haemorrhagic pneumonia. Injection of 5 cc. of 0.01% caused a few suspicious areas of congestion, but no pneumonia.

*Intrapleural Injection.* Injected into the pleural cavity 10 cc. of 0.5% mercurochrome produced haemorrhagic pleurisy; 10 cc. of 0.1% caused a dry fibrinous pleurisy.

*Conclusion.* As it has been demonstrated that mercurochrome is inhibitory to the tubercle bacillus *in vitro* only in dilutions above 0.02%, and it required exposure to 1% for 24 hours to kill them, little can be expected from mercurochrome as a local antiseptic in tuberculosis.

*Intravenous Injection.* Fifty-four rabbits were used, half receiving intravenous injections of virulent bovine tubercle bacillus and half receiving an intravenus injection of virulent human tubercle bacillus. Half of the animals were treated immediately with mercurochrome (5 mgm. per kilo) and daily for two weeks; the other half were treated one week after infection.

*Conclusion.* Mercurochrome 220 soluble injected intravenously had no appreciable effect on the tuberculosis developing in rabbits after intravenous injection of suspensions of virulent human or bovine tubercle bacillus.

—C. H. V.

* * *

"*The Tubercle Bacillus as an Etiologic Factor in Lupus Erythematosus.* A. Benson Cannon, M.D., and Geo. G. Ornstein, M.D. New York. Arch. Derm. and Syph. 12: 690-699.

In this paper Cannon and Ornstein give a brief review of the literature referring to the etiology of Lupus Erythematosus. They demonstrate, in a series of cases where the Departments of Dermatology and Syphilology and of Bacteriology of the College of Physicians and Surgeons of Columbia University worked together, that there is a definite hypersensitiveness to tuberculin, general, local and focal, in cases of Lupus Erythematosus, not present in normal individuals. Further, in a series of 23 cases of the disease, five furnished biopsy material producing tuberculosis, microscopic and macroscopic, when inoculated into guinea pigs. Of these five patients four failed to show evidence of tuberculous lesions elsewhere in the body.

Most dermatologists at present regard Lupus Erythematosus as a "cutaneous symptom which may be called forth by a variety of causes of a toxic or septic character" (J. M. H. MacLeod), which may in some instances be tuberculous. The insistence upon its exclusively tuberculous nature is not now common, although the Vienna school has that tendency. The total exclusion of tuberculosis from etiological consideration is rarer. This article gives further support to the broad and inclusive view expressed by MacLeod.

—D. E. H. C.

## B. C. MEDICAL ASSOCIATION NEWS.

It is with very sincere regret that we record the death of Dr. Melbourne Raynor, of Victoria. The circumstances of his death were particularly tragic and painful, and great sympathy is felt with his widow and family in their overwhelming loss. Dr. Raynor was an outstanding man in the profession, and had held many offices in the local and provincial Associations. He was taking a prominent part in the preparations for the meeting of the Canadian Medical Association in Victoria in 1926. He took great interest in all civic and political affairs, and his influence and vote were always used for social and moral betterment and progress.

The 1925-26 sessions of the Fraser Valley Medical Society opened on September 3rd. Officers were elected as under:

Dr. G. T. Wilson, President;
Dr. W. A. Robertson, Vice-President;
Dr. O. Van Etter, Secretary-Treasurer.

Addresses were given by Dr. S. C. McEwen on "Physio-Therapy" and Dr. Bruce Cannon on "Infective Infantile Diarrhoea." A discussion followed, in which Drs. H. Collins, W. A. Robertson and D. A. Clarke took part.

Clinical meetings of the Fraser Valley Medical Society, with presentation of cases and case reports, are held at the Royal Columbian Hospital, New Westminster, on the third Thursday of each month.

A "Well Babies" clinic is held at the Royal Columbian Hospital on the Wednesday of each week.

A clinical meeting of the No. 6 District Medical Society (Vancouver Island) was held at Nanaimo on December 4th, when Dr. George E. Seldon, of Vancouver, gave an instructive talk on "Surgery of the Upper Abdomen," and Dr. C. E. Brown, also of Vancouver, on 'Rehfuss tube in Diagnosis and Treatment." An animated discussion followed each address. The Executive Secretary of the B. C. Medical Association gave an outline of the proposed scheme for "Extra Mural Post-graduate Medical Education," which will be carried on throughout the Dominion by the Canadian Medical Association in 1926.

The December meeting of the Victoria Medical Society was addressed by Dr. A. S. Lamb, of the Provincial Department of Health. He dealt with his work, in the capacity of specialist medical consultant in tuberculosis clinics, in charge of educational propaganda carried on by the Department throughout the province.

Dr. W. T. Barrett has just returned from a visit to eastern clinics, notably the Mayo Clinic, the St. Paul Congress, and the meeting of surgeons in Philadelphia.

Dr. Gordon C. Kenning has returned from a trip to New York, Chicago, Detroit, Montreal, and the Mayo Clinic.

Dr. Hermann M. Robertson, of Victoria, has just returned from a journey through the clinics in Eastern Canada and States.

# BLOOD TRANSFUSION.

*By Dr. Wallace Wilson*

READ BEFORE THE MEETING OF THE VANCOUVER MEDICAL ASSOCIATION, DECEMBER 1, 1925

Harvey Cushing remarks of any revolutionary advance in surgery that it appears necessary for it to pass through three stages: optimism, pessimism, and finally adaptation. Now it is true that as a result of the impetus given by the undoubted success of blood transfusion in haemorrhage and shock behind the lines in France, the procedure has had an immense vogue in the years following 1918, and this is particularly true of the North American continent. Almost every known disease of any magnitude has had its blood transfusion, enthusiastic reports and statistics have been published, and the transfusion needle has swung far over to the positive pole. From some reports now coming in it appears that in some quarters at least the needle is commencing to swing in the direction of the negative pole. Let me give you two examples of these extremes:

(1.) *Strauss* (Surgery, Gynaecology and Obstetrics, November, 1925)—"For fourteen years I have used blood transfusion on the slightest provocation when there was any question about the risk to the patient, and usually before operation, with the result that a questionable risk was converted into one that was absolutely safe. . . . I always perform blood transfusion when there is the slightest suggestion of an indication for it, and with the most gratifying results. . . . Repeated weekly small transfusions in extensive carcinoma have quite a telling effect."

(2.) Coffey commenced blood transfusion in 1908, and thought he was saving many lives. He now only employs it two to three times a year and has reached the stage where he says: "It (blood transfusion) is a therapeutic measure which is probably being overworked to such an extent that the question might be raised as to whether, taken as a whole, the good it accomplishes greatly outweighs the bad." (Quoted by Baldwin, American Journal Medical Sciences, July, 1925).

Blood transfusion is, however, undoubtedly not only beneficial but a life saver for certain patients under certain conditions, and it should be worth our while to discuss freely the When, How and Why of this procedure, and to see if we are yet ready for the stage of adaptation.

In the first place let it be granted that we know all about blood incompatibilities and the blood groups of Jansky and Moss, and then let us ask why it is that, with the exception of the paediatricians, we, in Vancouver, nearly all turn automatically to the sodium citrate method. It is true the technique is simple, little skill is required, and it is rarely necessary to cut the veins, and it may be also true that for just those same reasons we are also all the more easily persuaded by Lewisohn, its father, that sodium citrate neither increases the fragility of the red cells nor decreases the protective power of the whites.

If the Kimpton-Brown paraffined tubes are used for blood transfusion, practice and skill are required in paraffining the tubes and the veins are cut down on; with Unger's four-way swivel, record, and Luer syringes the procedure is not without its technical difficulties; and in using three 20 cc. glass syringes assistants are required and time may be lost, yet why is it that, with the notable exceptions of Frazier of Philadelphia and the Mayos, so many of the leading surgeons of America use, and persist in using, the whole blood method?

Apparently they do not subscribe to the innocuousness of sodium citrate, and they do not like the chain of events that commences with the donor's blood flowing into a beaker with concurrent stirring and subsequent standing with possible cooling, and finally ending with the blood flowing down a long rubber tube into the recipient's vein. They fear for a weak link.

Evidence has been advanced from time to time both for and against both methods, and it is evident that the question is still a moot one. It is only in a very few places, such as the Mount Sinai Hospital, that both methods are used side by side, and there, as far at least as post-transfusion chills are concerned, there seems to be little to choose between whole and citrated blood.

Post-transfusion complications occur ever and anon with anyone who is doing blood transfusions. There may be, not infrequently, a chill, occasionally haematuria, and rarely death. Sooner or later these complications will inevitably occur if we neglect to group and if we neglect to re-group the recipient for a second transfusion. Trouble may also arise through faulty grouping, through inaccurate technique of the actual operation, through lack of judgment in the choice of patient, and through a dim, indeterminate admixture of all these three in varying proportons. Occasionally even when the greatest care is exercised all the way through, the unlooked for happens. Copher reports two cases of fatal haemolysis in which the blood grouping was perfect both before and after. We are bound to admit that blood transfusion is never without possibilities of trouble.

Direct matching of donor's and recipient's bloods is probably more accurate than grouping in picking out incompatibilities. It is stated that chills may be anticipated in recipients who have received previously anti-toxins, vaccines, bacterins, serums or coagulants, and such drugs as quinine and antipyrin, but undoubtedly, speaking generally, as far as the choice of patient is concerned the greatest number of chills follow transfusion for leukaemia and acute sepsis, while it is rarely seen in acute massive haemorrhage.

It is definitely established that, to date, blood transfusion has its greatest sphere of benefit in acute haemorrhage with marked loss of blood and shock. Here the new blood acts as a coagulant, reduces shock and, where operative interference is necessary, may convert a grave surgical risk into a moderate one. In the same way it should be of value following operation where there has been considerable loss of blood and shock. Some cases of marked chronic

secondary anaemia also benefit when the transfusion is used, either as a curative procedure alone or preparatory to operation.

Herr, in the Boston Medical and Surgical *Journal*, points out that a blood with a haemoglobin of 40% will carry on oxidation with the patient at rest in bed, and advocates transfusion when the haemoglobin remains between 20 and 30 per cent. for any length of time.

It must not be forgotten, however, that many cases of low haemoglobin content stand operation remarkably well. In 1913, Cullen, of Baltimore, reported on all gynaecological records of the Johns Hopkins Hospital for the previous 23 years in which the haemoglobin was 40% or below. There were 170 cases, made up of:

| | |
|---|---|
| Bleeding uterine fibroids | 42 cases |
| Hyperplasia of the endometrium | 23 cases |
| Carcinoma of the cervix | 18 cases |

and the remainder was made up of pelvic inflammations, retained placenta and tubal pregnancies.

Several of the patients were moribund when brought in, and died within a few hours without operation.

The haemoglobin content in the 170 cases ranged between 40 and 10 per cent.

In the minor operations, such as curettage, there was little or no trouble.

Seventeen hysterectomies were performed with Hb. as low as 19% in one case, and the results clearly showed that with a very low Hb. hysterectomy could be safely undertaken.

Of all the cases operated on only 13 died, and in none could the low Hb. content of the blood be held directly responsible, but rather to preceding conditions or complications, of which the anaemia was at most only a small part.

In cases of chronic sepsis it has been argued that the benefit derived is only proportional to the associated anaemia, and R. G. Hoskins, Professor of Physiology at the Ohio State University, goes so far as to state that he knows of nothing in the transfusion of blood which could physiologically combat infection.

Probably all of us who have exhibited blood transfusion in the presence of pernicious anaemia, can recall cases in which there has appeared an apparent amelioration of the symptoms and a prolongation of life. Richard Cabot states: "I do not believe that the modern habit of treating pernicious anaemia with transfusion prolongs life. It will improve the condition for a certain period of weeks. It will bring almost any patient up for a time. But if I had pernicious anaemia I would not be transfused; I would not take the bother."

MacLaren goes even further and states that while some years ago he was very enthusiastic about transfusion in pernicious anaemia, now, after following a large number of these transfused cases, he has no doubt that the transfusion did them more harm than

good, and many of them died earlier than they would have otherwise.

Transfusion in the leukaemias and acute sepsis is considered to be not only useless but dangerous by many leading medical men, and it is certain that the greatest number of post-transfusion chills occur in these cases.

Blood transfusion is being used to some extent in severe burns, and although Finney pronounces it dangerous, and Deaver would use it only with anaemia, I think a case for it has been made out by its protagonists.

Splendid results are undoubtedly obtained in haemorrhage of the new-born, and in these cases it appears unnecessary to type, the mother's blood being injected straight away into a vein or the superior longitudinal sinus.

The list of conditions that have been submitted to transfusion could be continued indefinitely, and reference to the literature shows glowing reports on the results obtained in conditions ranging from pneumococcal peritonitis, encephalitis lethargica, influenzal pneumonia and bacterial endocarditis, to the jaundice in connection with impacted stones in the common duct and carcinoma of the pancreas.

It is not unlikely that such reports influenced Bevan when he said, this year: "When I have seen a clinic in which dozens or scores of blood transfusions were made, I felt that they were, with the exception of a very small percentage of cases, of no value, and employed without any sound indication. . . . Show me a clinic in which a large number of transfusions are being done, and I will show you a clinic in which a large number of unnecessary transfusions are made."

There are other phases of blood transfusion that can only be mentioned. Immuno-transfusion does not appear to be based on sound premises. Exsanguination-transfusion has been used with success in certain selected cases, specially at the Sick Children's Hospital, Toronto, and the paediatricians appear to be the pioneers in this modification. Do they get absorption of the blood injected into the peritoneal cavity? It appears to be the case in healthy animals, but recently, in three infants coming to autopsy three days after injection, the unaltered blood was found lying in the peritoneal cavity.

For the purpose of this discussion I have here outlined in a disjointed fashion some of the problems involved in blood transfusion. It is evident that many of them are still unsolved. It is evident that what progress has been and is being made has been and is being accomplished by the method of trial and error. It is a sound scientific method and it is also the method recommended by St. Paul to: "Prove all things, and hold fast to that which is good."

# INTRAVENOUS THERAPY.

*By Dr. G. Lyall Hodgins.*

READ BEFORE THE MEETING OF THE VANCOUVER MEDICAL ASSOCIATION, DECEMBER 1, 1925

Intravenous therapy is used in the treatment of a large and varied number of conditions. From one's own experience one cannot form fair conclusions, because of lack of large numbers of cases under control conditions. I, of course, am able only to give a review of the subject.

To first mention a few points of physiology. Drugs, organic or inorganic, when given by mouth reach the blood stream slowly and gradually. If a dose of 10 grs. of urotropin is taken it reaches the blood stream particle by particle, and may be effectively dealt with without harmful results. This gradual admission is in contrast to the shock like admission of drugs by the intravenous route.

Drugs by mouth, as a rule, first pass through the liver on their way to the general circulation. Now it is clearly established that the liver is a detoxicating organ. For instance, 1 m. of horse serum by carotid vein in an anaphylactic animal may cause death; 5 m. by mesenteric vein would be harmless. If the liver is destroyed or diseased, protein diet soon causes coma in an experimental animal; glucose revives it.

The blood is a fluid of a complex and finely balanced nature.

(1) It contains numerous chemical compounds, organic and inorganic. These compounds are, in many cases, extremely complicated. They are unstable and are changing by interaction from instant to instant.

(2) In physico-chemical terms the blood is a colloidal system, colloidal or glue-like, having a viscosity above that of water. In a true solution the ions are dissociated, separated as Na and CL in saline solution. The ions are, of course, extremely small, the finest division of matter. The particles of a colloidal solution, say, egg - white, are much larger, are not simple ions but are complicated organic proteins, albumin, etc. These particles are ultra-microscopic in size in permanent suspension. One should, I believe, have some simple concept of these physico-chemical characteristics to have a clear appreciation of the hoped-for results of intravenous therapy. To illustrate one effect of colloidal solution, a cube of metal 1 cm. each edge with a surface of 6 sq. cm. if in a colloidal state will have a surface of 60,000 cms. So that the colloidal condition of the blood implies a tremendous surface of material, perhaps acres in extent. An acid $H_2SO_4$ and sodium bicarbonate will react in proportion to the area of surface of contact. The acid on a lump of bicarbonate having a surface of 1 sq. inch reacts at a definite rate. If the same amount of soda bicarbonate is finely divided and spread out, the reaction is very rapid. Of course, the energy of the reaction is proportional only to the mass of each by weight, the speed of reaction to the surface of contact.

The animal body, to maintain life, must avoid large mass reactions with violent results, as excessive heat, etc., but must at the same time during digestive, respiratory, secretory and muscular activity, have speed of reaction to maintain a fine equilibrium. The colloidal system of blood and cells provides a mechanism to accomplish the above. It is an economical system, by weight a small amount of solid material, but a large volume of water, the universal solvent, conductor and insulator, slow to change in temperature.

The buffer substances in the blood, bicarbonates, phosphates and proteins, which are acid to bases and basic to acids, maintain the blood in a slight degree of alkalinity, so that in life there is never a variation equal to the range of tap to distilled water.

Colloidal systems of cells or the tissue of organs have strange and weird chemical affinities. Tetanus toxin for nerve tissue, digitoxin for heart muscle. Phenopthalein is excreted by kidney and liver. Phenosulphophthalein, an SO radical added, excreted by the kidney. Phenotetrachlorphthalein, a CL atom added, excreted by the liver aolne. Such a list might be extended. Drugs act differently on dogs, cats, rabbits and man. The hæmoglobin of animals differ. But much more to the point is the fact that a percentage of humans react differently from the average expected reaction. These people are called reactors, are said to be anaphylactic, allergic, anaphylactoxid, or to have an idiosyncrasy. All these terms, I believe, mean the same thing. With our present knowledge, a physico chemical explanation is the only possible one. There is a chemical upset rapid because of the large colloidal surface and the complexity of the compounds, a colloidoclasis, using Widal's term. Such a concept explains symptoms of cardiac and respiratory failure, urticaria, chills, fever, thrombosis, etc.

It is through a knoweldge of the above colloidal structure and specific chemical affinities, that we hope to secure by intravenous administration of chemicals death to infecting organisms. For instance, Ehrlich achieved, after many trials, in producing salvarsan, a chemical death to spirochætes.

The value of non-specific protein therapy is hard to explain. One possibility is that the anti-bodies are present but fixed, and the non-specific protein injected frees them. The anti-bodies are specific, but the means to free them is non-specific. I believe such therapy should never be intravenous.

As to technique:

(1) The drug should always be given slowly, and one should stop on any signs of reaction.

(2) A small needle, preferably a hypo. needle.

(3) Old tubing.

(4) The distilled water should be made with a special still, since some triple distilled may contain a toxic product of bacteria that causes reaction. This has recently been proven in the Sprague Laboratory, Chicago.

As to the curative effects of some drugs:

*Glucose*—The most useful. Five to six per cent. is isotonic. Hypertonic is best: give slowly. 10% to 20% solution biologically tested on animals. One gram per kilo or ½ grain per lb. of body weight, two or three times in 24 hours, supplies energy; best given by vein, since a concentrated solution by rectum is irritating and a dilution useless. Glucose is a diuretic, taking water from the tissues, valuable in liver conditions. Example, jaundice is improved, uraemia improved.

*Saline*—Very useful in shock, haemorrhage and dehydration.

*Sodii Bicarb.*—Prepared as in the V. G. H. in ampoules. Hypertonic salt 30% in Ringers 30 to 100 cc., to diminish brain volume and cerebro-spinal fluid pressure. Hypotonic salt or distilled water to increase cerebro-spinal fluid pressure. Both controlled by manometric readings.

*Digitalis*—Effect by mouth two to six hours. Only justified by vein in emergencies. By mouth, excess will be vomited. By vein, excess is fatal in auricular fibrillation by causing ventricular fibrillation, or if coronary sclerosis and a poor muscle may cause ventricular fibrillation, and death. If given, use 0.5 mg. oubain one dose.

*Arsenicals*—Out of 3,152 patients ten show reactions, shown as nitritoid crises. Adrenalin prevents. These ten will react to other drugs. Persistence in treatment dangerous.

*Mag. Sulph.*—1% solution 10-30 cc. helps convulsions in children, due to acuate kidney disease.

*Urotropin* in pyelitis.

Calcium chloride and sodium iodide 10% solution 10 cc. daily or twice daily, in asthma, urticaria, etc. Sometimes helps.

*Peptone*—Intravenously for asthma, etc. Reports show from 0 to 80% relief.

*Serums and Vaccines*, as a rule, can be given with as great advantage subcutaneously or intramuscularly, and without as much danger.

*Distilled Water*, used in hay fever, etc., may be dangerous.

*Dyes*—Merurochrome, acriflavine, gentian voilet. Five grams per kilo of 1% solution. May repeat and expect reactions. This method of treatment is an attempt to cause death to organisms with chemical disinfectants. I believe, in serious infections their use is justified. The final judgment will be delayed for years.

*Conclusion*—It can be shown by chemical and physical examination of the blood that almost any drug or solution by vein causes an upset. It is a known clinical fact that in a percentage of people the procedure is dangerous. Medical editorials and authorities advise against the method, yet it is used the world over. I believe, in serious, almost hopeless conditions, one is justified in using any method offering a hope of relief. That for chronic non-fatal conditions drugs should not, as a rule, be given by vein, with the exception of salt and glucose.

Ford
THE UNIVERSAL CAR

Thousands of Medical men from coast to coast are finding in the FORD closed car the solution of their transportation problem from the standpoints of ECONOMY, COMFORT and SERVICE. WHY NOT YOU?

We offer you a 24 hour shop service. Leave your car at night and it will be ready in the morning.

STONEHOUSE MOTORS LTD.

*Ford Dealers*

418 GEORGIA STREET WEST
VANCOUVER, B. C.

# B. C. Pharmacal Co. Ltd.

329 Railway Street,
VANCOUVER.

*Manufacturers of Hand-made Filled Soluble Elastic Capsules.*

Specimen Formulae:

**No. 20a—**
**Cascara Liq. Ext., 30m**
**Euonymin, 1 gr.**
**Podophyllin, ¼ gr.**

**No, 29—**
**Cod Liver Oil, 25m.**
**Quinine, 1 gr.**
**Creosote, Beechwood, 2m.**
**Guaiacol, Pur., 2m.**

*Special Formulae Made on a Few Hours' Notice.*
*Price Lists and Formulae on Application.*

# PRESCRIPTIONS

*filled exactly as written*

*Phones: Seymour 1050 - 1051*

*Day and Night Service*

## Georgia Pharmacy Ltd.

*Georgia and Granville Sts.* *Vancouver, B. C.*

# Frost Pharmacy Ltd.

Gordon Frost

*Prescriptions a Specialty*

TWELFTH AVE. AT GRANVILLE

Phones:

Bay. 540 Bay. 1720

# *Say it with Flowers*

Cut Flowers, Potted Plants, Bulbs, Trees, Shrubs, Roots, Wedding Bouquets.

Florists' Supplies and Funeral Designs a specialty.

*Three Stores to Serve You:*

| | |
|---|---|
| 48 Hastings St. E. | Phones Sey. 988 and 672 |
| 665 Granville St. | Phones Sey. 9513 and 1391 |
| 151 Hastings St. W. | Phone Sey. 1370 |

## *Brown Bros. & Co. Ltd.*

VANCOUVER, B. C.

*Every Good Wish*
*for your Happiness during the*
*New Year*

CAPITOLA PHARMACY LTD.
FRED G. BROWN
Prescription Specialists
Cor. Davie and Bute Streets Phone Sey. 158

The Owl Drug Co., Ltd.

All prescriptions dispensed by qualified Druggists.

You can depend on the Owl for Accuracy and despatch.

We deliver free of charge.

*5 Stores, centrally located. We would appreciate a call while in our territory.*

*Ambulance Service*

TELEPHONE
*Fair. 58 & 59*

*Mount Pleasant Undertaking Co. Ltd.*
*R. F. Harrison W. E. Reynolds*
*Cor. Kingsway and Main*

# H. A. BARRETT, M. D.

TELEPHONE SEY. 4144

Practice limited to Physiotherapy.

Quartz Lamps, water and air-cooled; High Frequency, Galvanic Static and Wave Currents; Massage, etc.

Special facilities for surgical diathermy (electro-coagulation).

Hydrosine bath for weight reduction—by artificial exercise of muscular tissue—not a dehydrating process.

Electrolysis for hyertrichosis, etc.

Ionization for otorrhoea. A. R. Friel's method.

Authorized by the Workmen's Compensation Board to treat their cases.

Trained assistants only.

Hours 9 a.m. to 6 p.m., including Saturday. Evenings by appointment.

Address: Court House Block, 812 ROBSON STREET

## *Electro-Medical & X-Ray Equipment & Publications*

Latest British and European Apparatus. All types ULTRA-VIOLET Lamps, including the New Sun Lamps and Tungsten Lamps.

*Recent Works—*

"Ultra-Violet Radiation," by E. H. Russell, M.D., and W. Kerr Russell, M.D.
"Manual of Practical X-Ray Work," by John Muir.
"Ultra-Violet Rays," Percy Hall, M.D.
"Principles of Electro-Therapy," Turrell.

*Distributors—*

*Empire Agencies Ltd.*

543 Granville Street
VANCOUVER

## *Nurses' Central Directory*

*Phone Fairmont 5170*
*Day and Night*

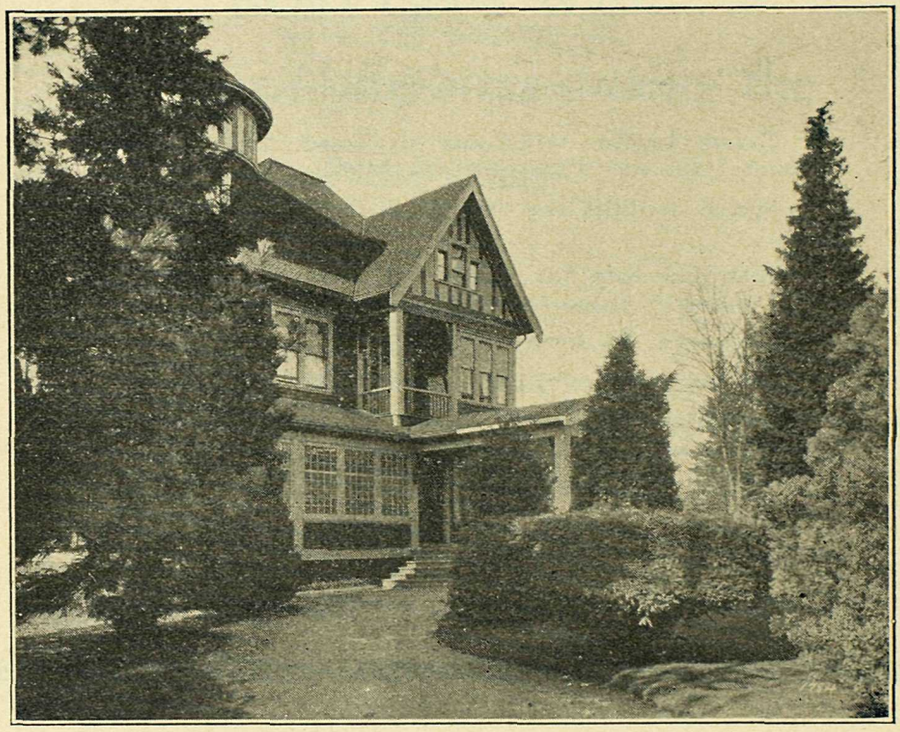
*Hourly, Institutional and Private Nurses Supplied*

*Registrar--Miss Archibald, R. N.*
*601 13th Ave. West, Vancouver*

*Patronize the*

*BULLETIN*

*advertisers.*



# Hollywood Sanitarium

LIMITED

*For the treatment of*

Alcoholic, Nervous and Psychopathic Cases Exclusively

*Reference ~ B. C. Medical Association*

For information apply to

Medical Superintendent, New Westminster, B. C.

or 515 Birks Building, Vancouver

Seymour 4183 Westminster 288