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*Hugh Melville*

VOLUME I.

NUMBER 1

**University of Western Ontario**

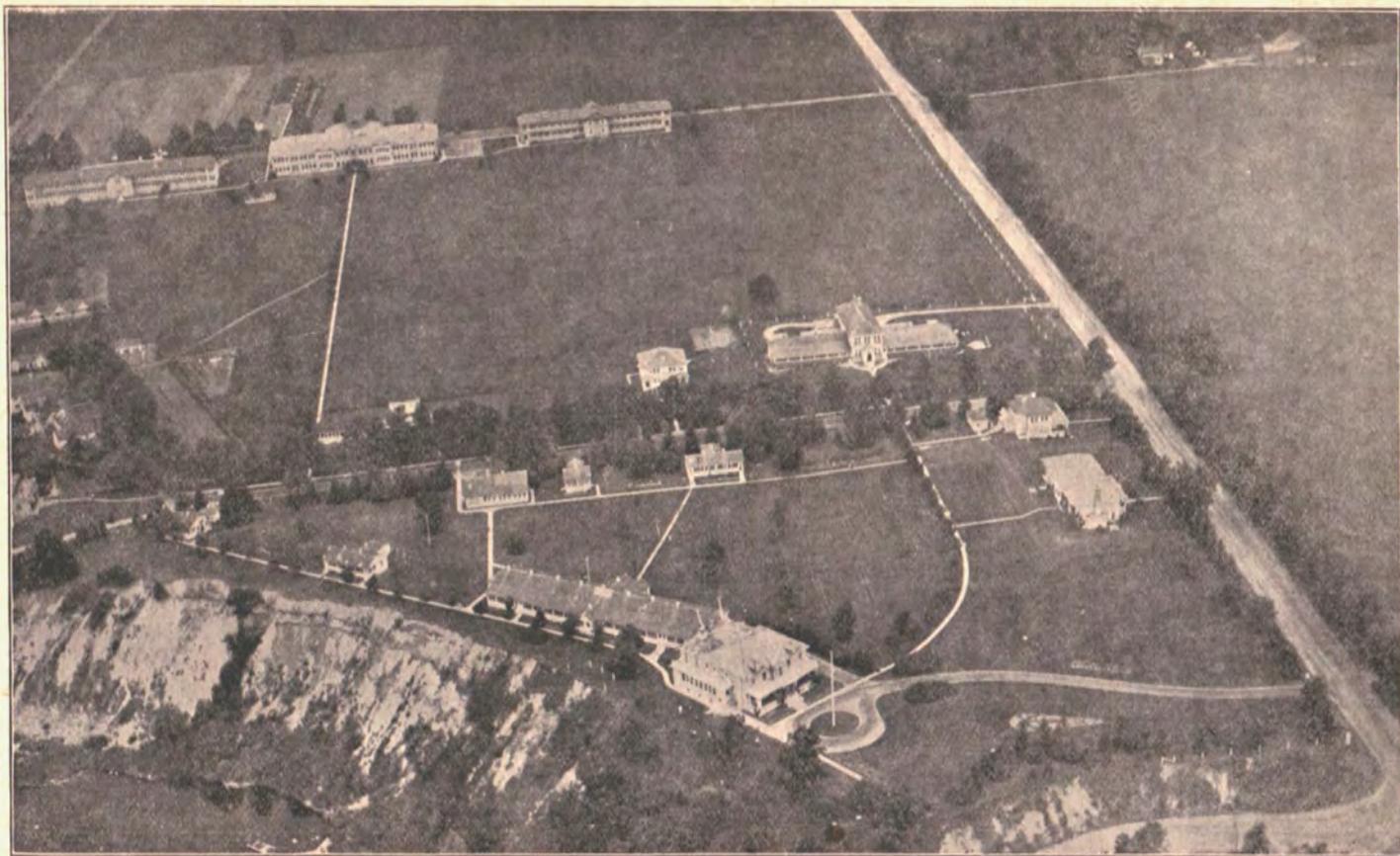
# MEDICAL JOURNAL



**October 1930**

LONDON

CANADA



**QUEEN ALEXANDRA SANATORIUM — LONDON, ONTARIO**  
For the Treatment of all Forms of Tuberculosis and Diseases of the Chest

University of Western Ontario

**MEDICAL JOURNAL****Vol. I., No. 1****October, 1930****C O N T E N T S**

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## FOREWORD

BY W. SHERWOOD FOX, PH.D.

*President, University of Western Ontario*



JUST as no individual can live to himself, so no institution can live to itself. Of all institutions those that must live the most unselfishly are those that are supported entirely or chiefly by public taxation. Of this class the universities are the most important, since they are consciously founded on the theory of service to the community. An isolated university, a university that is turned in upon itself, is a contradiction in terms. When it is marked by either of these conditions it ceases to be a university.

The point of the foregoing paragraph is that a university in order to remain worthy of the name must not be content with performing the

limited service that is afforded by casual contacts; it must deliberately search for new contacts that will open up new avenues of service. Of course, I do not mean that artificial contacts are to be created, so that the university will be kept everlastingly busy. I mean, rather, that it is the mission of the university to discover by diligent investigation natural outlets for the discharge of its special functions, because observation has led me to believe that society as a whole is too timid, or else too uncertain of what the university's duty really is, to approach it and ask for this or that service.

The most significant feature of this new journal is the spontaneity of its origin. It has sprung with complete naturalness from the minds of the undergraduate students in Medicine. No prompting of Faculty or Alumni is the impelling force behind it. The fact that undergraduate rather than graduate students are its authors and sponsors is note-

worthy and indicates that the group of young men and women who during the next few years will emerge as doctors from the halls of our university will approach the practice and the progressive study of medicine with the proper spirit and attitude.

The ultimate contact sought by the young people who are founding this journal is that which would relate them to the people of Western Ontario. The agents through whom they effect it are the medical practitioners of this region. These, then, are supposed to be the chief body of the Journal's readers. To them will be offered histories of and comments upon cases that have come under the notice of the undergraduates and their instructors. Again, digests of articles on unique cases appearing in foreign journals or other publications inaccessible to the ordinary practitioner will be published from time to time by the editors and their assistants. The result will be that the Journal will become a factor in broadening the range of clinical information for the rank and file of the practising physicians and surgeons of Western Ontario. The benefit of this service will accrue to the individual citizens themselves.

I cannot refrain from alluding to the profit that will come to the undergraduates who take part in the preparation of the material for the Journal. The accuracy of statement involved in "writing up" cases will compel the authors of articles to form a habit of close and exact observation. The composition of résumés of important long articles will develop a progressive skill in compressing much into little. The search for articles and books worthy of being reviewed or summarized will broaden the editors' and contributors' range of professional reading.

It seems to me that if this Journal is founded on the basis of a high standard of medical science and of journalism alike, and this basis is steadily maintained or improved, this venture cannot fail to be a benefit to publishers and readers alike. Its promoters are assured of the best wishes of the Administration of the University and of their promise of co-operation.



University of Western Ontario Medical School.

BY A. BRUCE MACALLUM, M.D.

*Dean of the Medical School*



THE first issue of this journal forms another mile post in undergraduate journalism. The student body is to be congratulated in making an attempt to found a periodical which is devoted to the more serious cases of academic activity. The editorial board should strive to produce a publication which will give them some benefit in their subsequent professional life and endeavor to maintain good literary and scientific standards in the contributions submitted.

It is often stated that efforts of this type are as beneficial to the individual as the attainment of professional knowledge. If the standards

of actual extra-academic life are used as the yardstick, this argument may be valid. If adherence to the basic principles of literary merit and technical subject matter are the objectives, this Journal will have a definite educational value to its producers and more so if by good management it passes the test of financial solvency.

On behalf of the faculty I express the hope that this new venture will have a most successful course.

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BY JOHN A. MACGREGOR, M.D.

*Honorary President of University  
of Western Ontario Medical Society*

IT is indeed a privilege and a pleasure to be asked to associate myself with the inception of the University of Western Ontario Medical Journal conceived to give expression to the trend of student reflection and outlook.

For a long time such a publication has been contemplated and now that it has embarked on the literary sea, let us bespeak for it co-operation undreamed of by those responsible for its appearance and the financial assistance necessary for the maintenance of such a worthy publication.





# Cerebral Hemorrhage in the Newborn<sup>\*</sup>

W. L. DENNEY, M. D.

*Department of Pediatrics, U. of W. O.*

ONE of the earliest adequate descriptions of cerebral hemorrhage in the newborn was written in 1667 by an English physician named Willis<sup>1</sup>. It reads as follows: "Some time ago a woman in this city had several children who died of this disease; at length we dissected the head of the fourth child, which died within the first month like the rest. There was no collection of serum in the ventricles; only the substance of the brain and its appendages were moister and less firm in its texture than usual. But what was more remarkable, in the cavity below the cerebellum, immediately above the trunk of the medulla oblongata, we found a considerable quantity of grumous blood. But it is uncertain whether that matter was contained from the beginning of the disease, and so produced the convulsions or whether it was forced out of the blood vessels during the paroxysms, and so ought rather to be considered as the effect than the cause of the disease."

Statistics in regard to this condition are very misleading inasmuch as most figures are obtained from findings at autopsy and are from clear-cut cases in which the diagnosis could hardly be missed. It would be almost impossible to make a correct estimate in regard to these cases which recover or those dying with obscure symptoms in which autopsy has not been performed. Suffice it to say that undoubtedly a great many more than 60% of the deaths in infants under two weeks are due to cerebral hemorrhage and of those which recover an indefinite but far from negligible number are epileptic, paralytic or mentally defective.

The question as to the causation of this condition is a rather complex one owing to the fact that there is an interaction of several diverse factors, the more important of which are trauma, asphyxia, immaturity, or as it is more commonly known, congenital debility, and hemorrhagic disease of the newborn per se. By considering these factors separately it is easier to determine to how great an extent each plays its part.

Trauma due to an abnormal degree of moulding of the cranium may be sufficient to cause large tears in the supratentorial or sub-tentorial vessels even in normal babies who exhibit no signs of any other predisposing cause. Most of these hemorrhages are very massive and usually lead rapidly to death or if the child should live cause serious sequelae.

Congestion with rupture of the veins due to prolonged labor may in turn be due to malpresentation, an overgrown child, twin, umbilical cord around the neck or the rigid cervix of the primipara. These cases

<sup>\*</sup>Read at the Western Ontario Academy of Medicine, February, 1930.

are those that usually exhibit cyanosis and in whom artificial respiration is necessary to induce proper breathing.

Toxemia undoubtedly plays a part in some cases. This may be a toxemia of the mother such as eclampsia or other toxic states. Syphilis may be responsible although probably seldom. And, lastly, the true hemorrhagic diathesis of the newborn may occasionally be to blame although this is not very often the case.

Abnormal coagulability of the blood in a newborn infant is of rare occurrence. In a series of 500 cases, Sharpe and Maclaire<sup>2</sup> reported that the coagulation time and bleeding time were normal in all those cases later exhibiting a bloody cerebro-spinal fluid or coming to autopsy with definite hemorrhages. This was true in all except one case in which both the bleeding time and coagulation time were prolonged.

Does the pressure of forceps or the cranial moulding, due to prolonged labor, affect the bleeding or clotting time of the blood? Carr<sup>3</sup> found no change in the coagulibility of the blood in a large series of cases delivered by forceps, version and manipulation. It is to be remembered, though, that the clotting time and bleeding time in the newborn infant are usually longer than in the older child, a coagulation time of from ten to twelve minutes not being abnormal.

Along with all these fairly obvious causes there hover the shadow of the immature congenitally-debilitated child whether that child is premature, one of twins, or a full-term baby. Immaturity undoubtedly is associated with a friability of the blood vessels. It is fairly easy to understand how the premature babe or the babe of twin pregnancy may have immature organs and blood vessels but in the case of the full term child this is harder to understand. In the latter case we might ask ourselves, what constitutes an immature child?

A child of this type at birth will weigh five and one-half pounds or less. He appears to be long and thin, although in reality he is shorter than the normal infant. His heat-regulating mechanism is faulty and fevers and subnormal temperatures are common. Owing to the fact that the elastic tissues are among the last to mature, the external ears are flabby and loose. Lanugo is plentiful. There is almost constantly an exophthalmos but this may not be so apparent at birth as later. The internal organs and blood vessels are not completely developed and therefore the child is not prepared for a normal independent extra-uterine existence. Of 437 of this type studied by Capper,<sup>4</sup> 72 per cent were born prematurely, 27 per cent were full term babies and two infants were past term.

In the case of the asphyxiated babe it is rather difficult to determine cause and effect. How many are cyanotic because of hemorrhage and how many bleed because of congestion of the blood vessels? We do know this, however: the use of the Schultz method of artificial respiration is extremely dangerous insofar as a slight hemorrhage may be converted into an extremely serious one owing to the cerebral congestion

caused by this manipulation. In asphyxiated babies only the gentlest of manoeuvres should be used to avoid the possibility of making an unsatisfactory condition worse. This method of resuscitation should be entirely abolished from use and teaching in obstetrical practice.

For purposes of description, the symptoms of this condition may be classified under two divisions—the rapid, malignant type, and the slower, more benign type.

With the first of these we have very little to do. It usually follows a difficult delivery, occurs immediately after birth and is rapidly fatal. The hemorrhage in these cases is very great and the brain under considerable pressure as attested by a bulging fontanelle. At or shortly after birth the breathing of the child becomes labored, and the skin becomes cyanotic and feels cold and clammy. The local twitching and generalized convulsions begin with great rapidity. The child sinks into a condition of coma and dies within a few hours.

In the second or more slowly developing type, the first thing that is noticed is that the child becomes limp and refuses to nurse. Cyanotic spells occur followed by localized twitchings of the muscles, usually those of the face. Generalized convulsions follow with intervals of coma and collapse. On examination the fontanelle may or may not be found to be bulging. This sign is usually seen only in massive hemorrhages over the vertex or in the case of an intra-ventricular hemorrhage. The following history illustrates this type of condition:

Baby M.—immature infant—aged two days—supposed to be full term—difficult delivery—forceps used. At birth he appeared to be normal except for a superfluous coat of lanugo. Twenty-four hours after birth he became somnolent and refused to nurse. Slight twitchings occurred but no major convulsions. When seen, the fontanelle was bulging and child in a state of collapse. The right ventricle was punctured with an ordinary Wassermann needle and about 12 c.c. of sanguinous fluid was withdrawn. The child was then given 20 c.c. of whole blood intravenously. He recovered. This occurred six years ago. He appeared to develop in a normal manner both mentally and physically. About one month ago his family physician informed me that he had had his first epileptic seizure.

The heart beat in cerebral hemorrhage may be either very rapid or very slow, depending on whether the vagus nerve root is depressed or stimulated. Respirations are often irregular and sometimes of the Cheyne-Stokes type. Another sign of value is the "Hamplermann reaction." This consists of a rapid jerking of the legs and arms if the sternum is tapped.

About the only diagnostic measure of any value is a lumbar puncture. This must not be slightly undertaken. One can easily understand that if a child is held in a markedly flexed position as is the case in an ordinary method of doing a puncture, a cerebral congestion will be induced with a consequent possibility of increasing the

hemorrhage. In cases where a lumbar puncture is performed a hemorrhage will show up as a bloody discoloration of the cerebro-spinal fluid. This should be uniform throughout the sample. Where blood is obtained at first and the fluid becomes clearer toward the end of the drainage, it is likely that a vessel has accidentally been pierced during the puncture. The fluid is also sometimes discolored by bile pigment. This must be ruled out.

About the only condition calling for a differential diagnosis is that of sepsis. This must be determined on the presence of fever and the evidence on hand.

In considering the prognosis I believe it to be utterly futile to deal with statistics. Undoubtedly a fair number of these cases recover with no apparent after effects. The majority of these are probably cases with petechial hemorrhages into the brain substance itself. In the more severe cases however death usually occurs. In this class those that recover are in a grave danger of paralysis, mental deficiency or epilepsy.

Inasmuch as activity and manipulation but tend to increase the hemorrhage these cases should be kept at rest. The baby should be kept in a dark, quiet room and fed by means of a medicine dropper. If the milk is not fully established in the mother's breasts, another babe should be allowed to suckle in order to start the flow. Where this is not necessary, the breasts should be pumped regularly. The value of lumbar puncture as a therapeutic agent is very doubtful and may easily make matters worse. So few of these cases being caused by true hemorrhagica neonatorum it would appear that the use of adult blood would be valueless. However, in view of the fact that the normal coagulating time of the blood in the newly-born infant is considerably longer than that in the adult, and this may be shortened by the administration of adult blood, it should be used in all cases. The usual procedure is to give it by intramuscular injection. If this treatment is of any value, it should be given in such a way that its effect will be almost immediate, i.e., intravenously. At least 20 c.c. should be given to have the desired effect.

For prophylaxis I would advocate the avoidance, as far as possible of the induction of premature labor and the substitution of full term Caesarean section. Prolonged labor should be avoided. The skilful use of forceps is less to be feared. For those babies born prematurely and full-term babies weighing under five and one-half pounds, especially following difficult labor, I would advocate the use of 20 c.c. of whole blood intramuscularly before they leave the labor room.

<sup>1</sup>Annals of Med. Hist., 10—409—1928.

<sup>2</sup>Sharpe W. and Maclaire A. S.—Surg., Gyn., and Obs., Nov. 1925, p. 583.

<sup>3</sup>Carr, W. L., Am. J. Obs. & Gyn., Aug. 1929, p. 203.

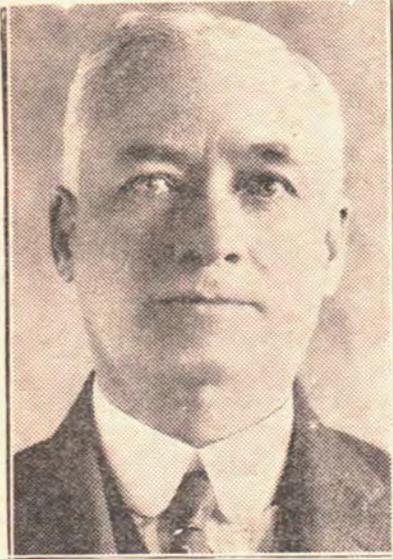
<sup>4</sup>Capper, A., Am. J. Obs. & Gyn., July 1929, p. 106.

# Reminiscences

W. J. ROCHE, M. D.

*Chairman Civil Service Commission*

*First Graduate of the U. W. O. Medical School*



I HAVE been requested to write an article of a reminiscent nature of my undergraduate days at what was known in those days as the Western University for publication in the first number of the new *University of Western Ontario Medical Journal*.

Such an article will necessarily be brief, first, because three sessions of my undergraduate days were passed in attendance at Trinity Medical School, Toronto, and only my final session was passed at Western, which was the first year of its Medical Department; and, secondly, I was the only student taking a final course during that session, and therefore my experience was somewhat limited.

The original Medical School was located in the north end of the city in a cottage on the old Huron College grounds, and it certainly was a unique spectacle to see the members of the Faculty, lecturers on final subjects, driving to the building each week day for the purpose of delivering their prepared lectures to the one lone student.

Upon the advice of one of the professors, Dr. Chas. S. Moore, in whose office I was a student for three summers between sessions, I discarded my notebook, drank in the words of wisdom which fell from the lips of the solons of those days during the three-quarters of an hour lecture, as the remaining quarter of an hour was devoted to what was known as a "grind" on the subject that had just been lectured upon, and the final lecture of the week held on Friday was entirely devoted to a "grind" of the week's lectures, which necessitated the lone student to sit up and take notice if he wished to make a passable display of the benefits received from his instructors, which practice also had the advantage of cultivating a retentive memory.

The clinics were held at the Victoria Hospital, which was a much less pretentious institution than the Victoria of the present day, and

the few students who were attending the Medical School had the advantage of practical experience, as they were allowed to personally examine, diagnose, and prescribe under the supervision of the physician or surgeon in charge of the clinic. This was an advantage which I derived from attending my final year in a small school, and which because of the large number of students in attendance at either of the then Toronto Medical Schools, viz., Trinity or Toronto, I would have been unable to enjoy. Again, I not infrequently had the privilege of being asked to spend my evenings at the Hospital during the temporary absence of the Medical Superintendent while visiting his lady love, and on a number of occasions took charge, with the assistance of the head nurse, of those interesting cases that refused to await the return of the Superintendent. This experience gave me an amount of self-confidence that stood me in good stead especially during the first year of my country practice, and I never regretted having taken the advice of my tutor, Dr. Moore, to remain in London rather than return to Toronto for my final session, particularly as both he and his esteemed father, the Dean of the Faculty and Professor of Surgery, so frequently invited me to accompany them when visiting their respective patients. Some educator has explained the difference between large and small colleges by saying that in the large one the boy goes through more college, but in the small one more college goes through the boy—a not inappropriate differentiation, the accuracy of which can be certified to by many graduates who have had experience in both large and small colleges.

When I recall the fact that it is now forty-seven years since I graduated, having the honour of being the first graduate in medicine from my alma mater, and that all of the members of the Medical Faculty of that day have gone to their reward, save and except our greatly respected Dr. Waugh, that a large proportion of the graduates since then have also ceased their labours and entered into rest, I have it borne in upon me that I am not so young as I used to be, and have every reason to be grateful that I am privileged to live and to witness the progress and expansion of old Western.

From the small building that housed the students in 1882-83, the Medical Department has grown until the present splendid building with its excellent equipment stands forth in evidence of its progress and prosperity. From the comparatively small old Victoria Hospital there now stands fronting the present new and commodious Medical School the enlarged Victoria Hospital, equipped with all modern requirements, beautifully situated, with the Public Health building adjacent on the same grounds, and in addition the advantages of St. Joseph's Hospital as well.

From the little band of students of all years that frequented the halls of the original home, the large graduating class annually of more recent times betokens the increased patronage which speaks more eloquently than words of those who builded better than they knew. The

undergraduates of the present day should and no doubt do appreciate the great privileges which they enjoy as compared with their predecessors of long ago. The methods of teaching have been revolutionized and modernized, theoretical instruction has largely given way to more practical methods, research work is coming into its own and has made wonderful strides of recent years, and the graduate of today in consequence is a more finished product than of yore. These and many other advantages that cannot be elaborated within a brief article go to show the great strides that our profession has made during the last half century and the deservedly high esteem in which its members are held by the community at large.

Nothing is more remarkable than the change that has come over the general aspect of student life during the past forty or fifty years. There has settled over the face of that life a calmness, comparatively speaking, which would strike dismay into the hearts of those who remember the old-time student life, and the eloquent outbursts and demonstrations which characterized the many occasions on which the students met in assembly, or other special events.

But however much the changed environment and the new methods have acted as sedative therapeutics, the old disease, if it may be so called, bursts forth anew, periodically, at longer intervals. And it is only when a remarkable change has taken place in human nature, and when there is no longer a belief in the principles of tradition, and the regard for association and a vent for the exuberation of youth, that there is a likelihood of a perpetual calm in the student life of our institutions. It may be that I am behind the times, an innocence abroad, and am not as conversant with what is going on today as I was in what is sometimes called the good old days of the past.

In conclusion let me say that a certain pride of one's alma mater is engendered in the minds and hearts of its graduates, a pride and affection which deepens with advancing years, when memory delights in recalling the experience of one's college days, the benefits derived therefrom, the friendships formed, the peculiarities of your fellow-students, to say nothing of the foibles and characteristics of the various members of the staff.

I give hearty utterance to the wish that the medical students of this University may render themselves worthy of the growing influences and widened scope of their profession, not alone by their technical accomplishments, but by their strength of character and the elevation of their aims.

# A Case Report of Agranulocytosis

K. L. MCALPINE,

**A**GRANULOCYTIC angina or agranulocytosis is a comparatively rare and new disease which was first described by German authors in 1922 and appeared for the first time in the American literature in 1925.<sup>1</sup>

The disease which is prevalent in Europe is quite commonly found in the State of New York. There have been about twenty-four authentic cases in Detroit.<sup>2</sup> The disease is practically unknown in Canada, two cases having been recently reported by Magner.<sup>3</sup> Ninety per cent of reported cases have been in females.<sup>1</sup>

The disease is principally a blood dyscrasia in which there is a leukopenia with a marked decrease or total absence of granulocytes otherwise known as polymorphonuclear leukocytes. Ulceration of the mucous membranes is the other feature of the disease. This malady may be a distinct entity, but some cases have been associated with chemical poisoning, such as benzol or arsphenamine, or as in the case reported, it is accompanied by an infectious arthritis with a former history of cholecystitis. Some observers believe the disease to be a chronic Vincent's angina, while others believe it to be primarily a disease of the bone marrow with a failure in the production of granulocytes. Others advance the theory of a severe sepsis with the resulting destruction of granulocytes.

## CASE REPORT

F. T., a white male aged 52, born in U. S. A., has been under medical care for the past ten years for neuritis and an infected gall bladder. A cholecystectomy was done six years ago and a hemorrhoidectomy ten years ago. He has had frequent head colds during the winter with a chronic non-productive cough. Four months ago he complained of pains and aches in the left shoulder and afterwards the right shoulder became affected to a lesser degree. Up to the present he has enjoyed comparatively good health. One week ago he developed a sore throat and tonsillitis. The gums at the time were tender and showed only slight ulceration. The patient complained of being lethargic and also stated his memory was not very keen for recent events. He sought medical advice and hospitalization was recommended with a provisional diagnosis of agranulocytic angina.

Physical examination revealed a middle aged, robust individual who was not acutely ill, complaining only of sore throat with some tenderness at the angle of the jaws. The examination of the teeth was negative. The faucial regions were markedly injected with considerable oedema, particularly on the right side which showed a cryptic moderately hypertrophied tonsil. The left tonsil was atrophic with no



visible membrane or exudate. The inflamed areas were acutely tender and considerable difficulty was experienced in swallowing. The gums showed only a slight ulceration at the first right molar tooth. The left shoulder was painful on active and passive motion. The examination of the chest was negative.

The patient on admission presented symptoms similar to those of a head cold, such as fever, sore throat, malaise, although he was in apparent good spirits. Pain in both shoulders and sore throat were the chief complaints. Fever ranged from 98 F. to 103.2 F. Numerous chills were experienced following protein therapy and nucleinic acid injections. He did not respond to treatment. Weakness and prostration became progressively more marked, broncho-pneumonia set in, finally delirium, unconsciousness and death on the morning of the twenty-first day of the disease.

The postmortem examination revealed no ulceration of the tonsils, soft palate or nasopharynx which should be present to conform to the diagnostic criteria laid down by Schultz. Usually the mucous membranes, including the tongue, tonsils, larynx, pharynx, rectum and the whole of the intestinal tract have ulcerative areas<sup>4</sup> which differ from ordinary ulcerations in that the inflammatory reaction at the border is absent. The bone marrow including that of the sternum and long bones was an intense red and not liquid in consistency as is occasionally found<sup>5</sup>. The spleen was of normal size, extremely spongy and friable.

A blood count taken six weeks previous to admission showed a normal red and white cell count. On admission to Harper Hospital, Detroit, the red blood cell count was 5,000,000 per c.mm., hemoglobin 100 per cent, white blood cells, 3,400 per c.mm., polymorphonuclears 22 per cent, lymphocytes 57 per cent, mononuclears 15 per cent, eosinophiles 0 per cent, morphology normal, platelets 142,000. Blood counts were repeated twice daily and oftener when required to determine the efficacy of treatment. The marked leukopenia which is one of the distinguishing features of the disease<sup>6</sup> was gradually becoming more pronounced till the granulocytes disappeared entirely on the fourteenth day of the disease. It has been stated death ensues in about four days following the disappearance of polymorphonuclears from the blood stream. In the case reported the patient died within seven days following their disappearance. The blood count ten hours prior to death showed white blood cells 300 per c.mm., lymphocytes 90 per cent, mononuclears 10 per cent.

Inasmuch as the etiology is obscure the treatment is also a matter of experiment as many types of therapy and drugs have been used. In this case nucleinic acid was tried first. This was followed by foreign protein medication in the form of sterile milk and typhoid vaccine. Two transfusions were given, one consisting of whole convalescent blood from a donor who had shown an apparent cure from the malignant type of disease. The other transfusion was whole blood from a donor of

similar grouping. One polymorphonuclear leukocyte was seen in the blood smear, following the second transfusion which was undoubtedly from the donor. Turpentine was injected intramuscularly into each thigh in an effort to create a site fixation abscess in the hope of stirring up an inflammatory reaction, but an abscess failed to form. Ultra violet light to throat and sternum was also administered. The above shows that the treatment is still in a state of chaos and that the prognosis of agranulocytosis is unfavorable. Spengler<sup>7</sup> reports two cases which recovered spontaneously without treatment.

#### SUMMARY

1. Diagnosis is made on history, the course of the ailment, and white blood count.

2. Although the etiology is still obscure it is quite apparent that there is a definite arrest in the formation of granulocytes. Usually the red blood cells, hemoglobin, blood platelets remain within normal limits.

3. Clinical and pathological variations of the disease exist although the symptoms in this case were manifest in the mouth and throat other types may show skin rashes, while petechial and gross haemorrhages of the mucous membranes are the more outstanding features of the more uncommon types.<sup>8</sup>

4. Prognosis is usually grave. A fatal outcome is the rule when the disease is severe enough to produce agranulocytosis.

I wish to thank Dr. W. H. Gordon of the staff of Harper Hospital, Detroit, for the privilege of reporting this case.

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<sup>7</sup>Spengler, G.—Agranulocytosis, *Weiner Klinische Wochenschrift Abs. J.A.M.A.* 04: 901: Mar. 22, 1930.

<sup>8</sup>Blanton, W. B.—Agranulocytosis with recovery, *J.A.M.A.* 92: 2099: June 1929.

## War Memorial Children's Hospital of Western Ontario

Erected as a memorial to those who died in the  
Great War, it is doing its splendid work—



Left—Pauline as she came to  
Hospital.

Right—Pauline as she was when  
she left it.

An example of what is  
being accomplished



—for all sick and crippled children of Western Ontario.

# The Function of the Children's Hospital in Western Ontario

GEORGE A. RAMSAY, M. D., F. A. C. S.

*Associate Professor of Surgery, U. of W. O.*

THE War Memorial Children's Hospital of Western Ontario, at London, is dedicated to the memory of the Glorious Dead of Western Ontario, who lie "in Flanders fields," and because it is serving a succeeding generation who, fortunately, do not know the meaning of war, it has become a living cenotaph, each day adding to its value as an institution of Western Ontario. In this, it serves the children whose physical need is great, if they are to become forceful men and women in the future. It aims to be a scientific object lesson in the special care of such infants as need specialized nutritional management in order to avoid the debilitating influences of rickets and other diseases of malnutrition; of older children who suffer from various medical and surgical conditions, and of those cases of physical disability where deformity has been the result of birth accident or disease.

The progress of the last eight years has been most encouraging. The detail of figures is not of particular interest, but there is this to say: that in 1923 it was opened with some few patients on one floor. Gradually each of the floors has been occupied, until now, there is acute need for more space.

During this time the Hospital has been visited by several trans-Atlantic visitors, and we hope to be excused for quoting from Sir Robert Jones, who says, "This is one of the most beautiful hospitals for crippled children that I have seen. Your citizens will be justly proud of it, and I am sure will be very glad to support it." Sir Henry Bouvain, in 1926, visited it and expressed his sentiments as follows: "I felt as I entered the hospital a sort of wave of child love envelope me."

As a medical institution it has a definite value to the individual patients who are admitted to its care; but as a component unit of the Medical School of the University of Western Ontario it stands as one of the educational institutions from whose source the future graduates of this school will derive their initial knowledge of pediatrics and the surgery of childhood. The facilities of the Hospital have been extended to the Extension Course of the Alumni Association during the past year, and on certain dates many of the physicians of the district have accompanied the staff on Sunday morning rounds.

In devolving this responsibility to the present and future generation of students in medicine, we may very well look around us to see with what equipment this service might be rendered.

The clinical work on the wards is well known, and the men associated with it are everyday contacts with the classes.

The personnel of the institution furnish features that are the essential in the nursing care of the patients, whether surgical or medical.

But there are those who are employed in other than what we ordinarily think of as essential therapeutic departments.

Since many of these children are long-time patients, their school work is maintained in a school-room on the sunny east wing of the ground floor; and while the three R's are just as much the basis of teaching as in the red school-house, yet there is another factor of therapeutics that comes under this department, namely, that of occupational therapy. It is of decided interest in the psychological treatment, to be able to allow a child that has been in bed for months and months to realize that he is still capable of doing some little things with his hands. There is no need to elaborate the great value of this side of the Hospital equipment.

From the standpoint of orthopedic and skeletal conditions, one of the factors that must supplement the surgical treatment is that of muscle re-education. And here we are again fortunate in the personnel and the equipment. The gymnasium has been equipped through the kind offices of friendly organizations and individuals; and while it occupies a basement position, yet its equipment in the summer months is transferred to a roof garden. There is no opportunity missed of bringing sunshine into the lives of the patients, from as many viewpoints as possible, not only physically, but otherwise. A summer home, five miles out in the country, on the highest point in Western Ontario, enables a group of both hospital and out-patients, children who would otherwise not know the meaning of "vacation", to enjoy two weeks in the sunny out-of-doors.

The physio-therapy department is also very well provided with the apparatus for light treatments during the winter months, and is being added to constantly. Within a short time this promises to be one of the well equipped departments that will bear favorable comparison with hospitals elsewhere.

The Hospital also maintains its own splint department, and experts here are capable of providing almost any appliance that has been found to be of individual service. This service is available for patients other than those in the Hospital.

We cannot fail to mention the excellent equipment that is maintained in the clinical laboratory and the associated laboratories of Victoria Hospital, the Institute of Public Health, and the University of Western Ontario. The laboratory work of all clinical need is done, and where special requirements of any variety are necessary, the other ancillary laboratories provide what is required.

A department is also maintained for the making of special feedings, not only for the in-patients, but of a large number of out-patients as well. While, obviously, it would be impossible to send bottles of milk

abroad, yet the department here is capable of furnishing some of the cultures and other materials for such specialized feedings as might be advised in particular cases.

The out-patient department has developed extensively in the last few years, and is proving of great value in supplementing clinical teaching, particularly with a view to end results. It is also relieving to some extent the pressure on the Hospital accommodation, and, more than that, is serving as a very effective follow-up to the work done within the Hospital. It has been demonstrated, many times, that the Hospital service is never complete for long enough after a child leaves the Hospital, and that constant supervision must be maintained through this out-patient and the follow-up department. As a matter of public interest in the Hospital, we have a very tangible example that has made possible the extension of the service of the out-patient, the massage and physio-therapy to those children who, living away from the Hospital, are not capable of getting their own transportation. A group of young women of the town have volunteered their services, with motors, and regularly take their turns of duty, conveying the children to and from the Hospital.

If the foregoing has enabled you, the reader, in any way to form some opinion of the function of the Hospital toward the needy children of Western Ontario, it is fitting to pay tribute to the genesis of the idea. The women's organizations of London and Western Ontario combined their efforts to bring about the building of this institution. It is to them, then, that all are debtors.



# English Internships

LEWIS R. YEALLAND, M. D., M. R. C. P.

*Harley St., London.*

IN acceding to the request of the President of the Undergraduate Medical Society to furnish the University of Western Ontario Medical Journal with an article on British internships, I wish to place it on record that I regard resident appointments for internships in America to be in no respect inferior to those in England.

It cannot be too strongly emphasized that large numbers of Western's graduates have been trained in American hospitals. Some have returned to Canada to occupy positions of high distinction; others have remained in America where by virtue of their academic standing, in a sense, fulfil the obligations imposed upon them by virtue of America's open hospital doors, and in consequence of which, keep them conspicuously wide open for other Western graduates to enter to occupy resident appointments.

England, and particularly London, offers less in the nature of hospital resident appointments to those who qualify in medicine, beyond the borders of its own island. In London, all the teaching hospitals, as for example St. Thomas' and St. Bartholomew's, offer resident positions only to their own students and usually the supply of graduates is much greater than the demand for appointments. It must not be forgotten that there are teaching hospitals in the Provinces, notably in Sheffield, to which is attached one of our most distinguished graduates in the person of Dr. Cyril Imrie. Similar conditions, I believe, exist there.

Those who fail to obtain resident appointments in their own hospital, as well as those who wish to prolong their hospital experience, apply for resident appointments in the post graduate teaching hospitals, such as the Prince of Wales' Hospital and the West London Hospital. As a rule the number of applicants for appointments in these hospitals is again greater than the hospital need. From this it will be readily understood that a hospital resident appointment in England is difficult for a Canadian to obtain. Sometimes, however, but infrequently, a Canadian who is highly recommended by his University is appointed to a resident post in a post graduate teaching hospital and at the present time there is a Canadian house surgeon at the Prince of Wales' Hospital, the first Canadian to hold such a post during my ten years connection there.

When applying for a hospital appointment it is essential for the candidate to be a Registered Medical Practitioner in Great Britain. Some licensing bodies in Canada have reciprocity with Great Britain and registration is allowed on the payment of a fee of five guineas or thereabouts. The higher degrees (M.R.C.P., F.R.C.S.) are as a rule sought after by those who have held resident posts for two years.

Indeed, hospital appointments are usually desired for the purpose of qualifying for the higher degrees.

In spite of the fact that Canadians are enthusiastically welcomed by the teaching bodies in England, it is a notable fact that co-ordination in medical post graduate teaching is to a large extent lacking. Efforts have often been made in this direction but unfortunately Osler, who aimed at establishing a large post graduate teaching centre in London, was not spared to impart his superlative dynamic which was essential to its success.

The Prince of Wales' Hospital Post Graduate College proposes to establish a hostel which will accommodate post graduates who come from the Dominions intending to take the higher degrees. As a first step only those who have passed the examinations for the Primary Fellowship (F.R.C.S.) will be admitted. Extension of this plan to medical subjects is now under consideration. A number of Canadians will be given hospital resident appointments at the Prince of Wales' Hospital so that they may obtain a closer contact with the patients. The address of President Fox, which appeared in the "Times" of June of this year, as well as my conversations with him, indicate forcibly his sympathy with the Post Graduate movement in England.

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## The Effect of Liquid Gasoline on Pulmonary Tissue

**D**R. BATTLE, a former Instructor of Pediatrics at Western, reported (J.A.M.A. 94-1570-July 17, 1930) a case of pneumonia, following the accidental aspiration of gasoline into the lungs.

A boy aged 8 inserted a rubber tube into the gasoline tank of an automobile. While the tube was in his mouth, a playmate blew into it, forcing gasoline into the boy's lungs. Within an hour he was unconscious. Under treatment he regained consciousness in four hours but respirations were rapid and labored. The following day he showed signs of pneumonia, which persisted for over three weeks and was characterized by (1) a low temperature, (2) a prolonged high respiratory rate, (3) wandering of the pneumonia signs and (4) a taste of gasoline during the entire period. The early unconsciousness was due to narcosis from the gasoline in the blood stream. The taste of gasoline for four weeks showed that gasoline must have remained in the lung over this period.—  
J. H. G. '24.



# Comments on Diagnosis and Immunization in Certain Diseases

A. J. SLACK, M. D., PH. C., D. P. H.

*Acting Dean of the Faculty of Public Health*



THE object of this paper is to present certain practical facts relating to a number of diseases which may prove of interest to both the undergraduate and the general practitioner. The scope of the subject is so great that its detailed discussion might well fill an entire volume. Such a brief comment, touching upon numerous common diseases for which immunizing agents of recognized worth are available, must necessarily be more or less disconnected.

## ACTIVE AND PASSIVE IMMUNITY

In the practice of artificial immunization we are concerned with two separate and distinct forms of immunity, active immunity in which antigens injected into the tissues stimulate the patient to build up his own protective antibodies and passive immunity in which antibodies already formed outside the body of the patient are injected to provide specific protective substances without effort on the part of the patient.

Artificial active immunization may be induced by the injection of an attenuated micro-organism, an exo-toxin, or a vaccine and is of comparatively long duration since the substances elaborated by the body in its own defense tend to remain in the body for long periods. Active immunity does not appear immediately but is built up after a period of days or even weeks, the degree and duration of immunity being strengthened by repeated gradually increasing doses of the immunizing agent.

Antitoxins, anti-bacterial and convalescent sera contain specific antibodies and provide passive immunity of only two or three weeks' duration since the blood stream tends to rid itself of artificially introduced antibodies in a short time. Passive immunity develops rapidly, intravenous or intraspinal injections giving almost immediate results while intramuscular injections require about eighteen to twenty-four

hours and subcutaneous injections thirty-six to forty-eight hours for the antitoxin to reach its greatest concentration in the blood.

#### SMALLPOX

One of the simplest methods of artificial immunization and one which has been recognized for more than a couple of centuries as conferring an almost absolute immunity is vaccination against smallpox with cow-pox virus. Smallpox is an entirely preventable disease which is kept alive by the unvaccinated person and so long as any considerable portion of the population remains unvaccinated there will always be danger of a serious outbreak of the disease. Primary vaccination in infancy is highly advisable not only for the specific protection which is afforded but because the reaction to primary vaccination in infancy or early childhood is much milder than in the adult. Opposition to vaccination is largely due to ignorance, prejudice and fear of infection. Education of the general public will tend to overcome the first two factors while the third can be overcome only by vaccinating in such a manner as to minimize the chances of infection. This may be accomplished by a careful cleansing of the site of vaccination with soap and warm water followed by alcohol and ether and the introduction of the vaccine-virus intra-dermally by the so-called prick pressure or acupuncture method and without drawing a single drop of blood. It is sometimes desirable to pin a piece of clean gauze inside the sleeve to prevent the clothing from touching the vaccination site. Vaccination shields are dangerous, a bandage or dressing of any kind is unnecessary and tends to retain heat and moisture while every effort should be made to keep the part cool and dry. The vaccination scab itself serves as the best possible protection against infection. This method results in a high percentage of takes and if carefully performed is practically free from danger of infection. Vaccine virus deteriorates rapidly if kept in a warm place. Failure to obtain a take on a primary vaccination does not necessarily mean that the individual is immune and for practical purposes such a person must be considered as unvaccinated.

It is sometimes difficult to distinguish between mild smallpox and severe chicken pox and in this case a laboratory test has been devised to assist in the differential diagnosis. A pustule and its contents collected in a sterile tube are emulsified and injected intracutaneously into a previously vaccinated rabbit. If it is smallpox, a positive reaction appears in forty-eight hours consisting of a distinct papule with redness and infiltration while this reaction does not occur with chicken pox.

#### DIPHTHERIA

Our knowledge with regard to diphtheria is even more complete, the organism can be readily cultured and identified in the laboratory, the Schick test will differentiate between those who are susceptible and

those who are immune, diphtheria toxoid will confer a lasting active immunity and diphtheria antitoxin is specific for passive prophylaxis and treatment. Diphtheria is a preventable disease and by the universal use of the Schick test and diphtheria toxoid can be stamped out. Diphtheria toxoid provides an excellent immunizing agent because it does not contain any free toxin nor does it contain horse-serum so that it cannot sensitize the patient to future doses of antitoxin. Active immunization with toxoid must be carried on year after year, especially amongst pre-school children, if the incidence and mortality from diphtheria is to be controlled. The reaction to the administration of toxoid is very slight in children up to ten years of age and these are the individuals who need protection, because most of the deaths from diphtheria are in young children. The Schick test shows that sixty per cent of children of pre-school age and over three months old are susceptible to diphtheria and statistics show that between fifty and seventy-five per cent of deaths from this disease occur in children under five years of age, therefore every campaign of diphtheria immunization should make a special effort to include this group. Active immunization against diphtheria requires three doses of toxoid to be given at intervals of three weeks and does not give an immediate immunity. About six or eight weeks after the third dose of toxoid the patient should be Schick tested when ninety to ninety-five per cent will be found to be immune, but if still Schick positive the third injection should be repeated. In a great majority of cases persons showing a negative Schick test are probably immune for life. Fallacies in Schick testing may be due to improper storage of the test material, incorrect dosage or subcutaneous instead of intradermal injections.

Toxoid is of no value for the immediate prophylaxis of contacts. Close contacts if susceptible should be given a prophylactic dose of diphtheria antitoxin. The wholesale passive immunization of schools with diphtheria antitoxin is, to say the least, unscientific, for at best the protection which is provided lasts only about two or three weeks. It is far better to take nose and throat swabs for possible carriers, Schick test the pupils and start toxoid immunization of the non-immunes and have the school nurse examine the children daily and isolate those showing suspicious symptoms, pending diagnosis. Clinically-positive or suspected cases should be given liberal doses of antitoxin without waiting for cultures. Laboratory diagnosis is by direct smear and culture. Direct smear examination is particularly valuable in suspicious cases which have not received antitoxin with the added advantage that the direct smear permits recognition of the organisms of Vincent's angina which would be missed if only cultures were examined. If a membrane is present the swab for diagnosis should be taken from beneath rather than from the surface of the membrane.

The virulence test for diphtheria is used to determine whether or not an organism morphologically resembling the diphtheria bacillus

is of a virulent character. A small amount of the suspected culture is injected into the skin of each of two guinea pigs, one of which has been previously immunized with diphtheria antitoxin. If the organism is a virulent diphtheria bacillus the immunized pig will show no reaction while the non-immune pig develops a typical skin lesion within seventy-two hours. Diphtheria convalescents who become chronic carriers or cases for diagnosis which show atypical organisms may be released from isolation or quarantine on a negative virulence test.

### SCARLET FEVER

Scarlet fever prophylaxis and treatment is now on much the same basis as that of diphtheria. Diagnosis of susceptibility can be made readily by the Dick test, active immunization can be induced by scarlet fever toxin, while scarlet fever antitoxin provides passive immunization for prophylaxis and for the treatment of acute cases.

The incidence of scarlet fever can be controlled by the active immunization with scarlet fever toxin of all persons showing a positive Dick test. This requires five injections of toxin in gradually increasing doses at intervals of one week and should be followed after an interval of ten days or two weeks with another Dick test to determine whether the patient has secured immunity. If the Dick test remains positive the fifth immunizing dose should be repeated.

Prophylactic doses containing two cc. of scarlet fever antitoxin should be used to protect close contacts amongst young children but should always be followed after about three weeks' time by active immunization with scarlet fever toxin. Passive prophylaxis of entire schools is to be deplored for the same reasons that obtain in the passive immunization of large groups against diphtheria. Scarlet fever antitoxin is certainly indicated in the treatment of severe cases of this disease and the results obtained by the early administration of treatment doses of antitoxin in severe cases are in many instances spectacular, the temperature returning to normal within twenty-four to forty-eight hours. In these cases specific treatment must result in a lessening of the complications for which this disease is so justly dreaded. Mild cases do not require antitoxin and apparently do as well without it. It is now conceded that the organism causing scarlet fever is a toxin-producing haemolytic streptococcus. As there are many strains of haemolytic streptococci which produce toxin a definite laboratory diagnosis is both difficult and time-consuming. Presumptive evidence in suspicious cases and contacts is obtained by streaking nose and throat swabs on blood-agar plates, incubating and examining for haemolytic streptococci.

### TETANUS

There is no known method of active immunization against tetanus but tetanus antitoxin is available for passive immunization and treatment. The organism which causes tetanus is a spore-forming bacillus

which grows in the absence of oxygen, therefore any deep wound, particularly puncture wounds, are favorable to its development. The size of the wound is of much less consequence than its character and content, as fatal tetanus has developed from such trivial wounds as pin scratches or splinter punctures. Tetanus always enters through the broken skin and every suspicious wound should be treated with an immunizing dose, 1500 units, of tetanus antitoxin. This injection may be made under the skin at some portion of the body where there is considerable loose subcutaneous tissue or into the tissues around the wound area. If the wound does not heal within seven days the prophylactic dose should be repeated and this may be required a third or fourth time. Treatment of acute cases requires the administration of very large doses of antitoxin given as early in the disease as possible.

#### CEREBRO-SPINAL MENINGITIS

Epidemic cerebro-spinal meningitis is practically the only acute meningitis in which there is hope for recovery under treatment. The disease apparently is kept alive by healthy carriers of the meningococci. Fulminating cases may die so rapidly that diagnosis is difficult or impossible, although the presence of purpuric spots upon the body, from which the disease derived the name of spotted fever, is indicative of the causative agent. There is no satisfactory method of immunization but anti-meningococcic serum provides a specific method of treatment. Every case showing symptoms of meningeal irritation should have a spinal puncture, with subsequent examination of the spinal fluid. Diagnosis is confirmed by finding the meningococci in the blood stream by blood culture or more often by identifying the gram-negative intracellular diplococci by direct examination of the cerebro-spinal fluid. In cerebro-spinal meningitis the fluid is under pressure and is turbid or even purulent. In every case where the spinal fluid is turbid a safe rule to follow is to give a treatment dose of antimeningococcic serum. Removal of pressure by spinal tap improves the severe headache and cerebral symptoms and after the fluid under pressure has drained off and before withdrawing the spinal needle slowly introduce approximately half as much antimeningococcic serum previously warmed to body temperature. As much as 20 cc. of antimeningococcic serum may be given intramuscularly and in some cases intravenous injection of a similar amount of the serum is definitely indicated. Repeat the treatment at intervals of six or eight hours until definite improvement is shown, then at longer intervals until the spinal fluid is clear and free from meningococci and clinical symptoms of the disease have disappeared.

#### RABIES

Rabies is a disease caused by a filterable virus which has an incubation period averaging forty days in the human being. Rabies is pre-

ventable in the early incubation period by a course of treatment with the attenuated virus of Pasteur or with the dead virus as used in the Semple vaccine, but if the disease is allowed to develop there is no known method of treatment which is of value and the patient invariably dies.

Semple's vaccine offers many advantages over the Pasteur treatment as a prophylactic measure against rabies. This vaccine will retain its strength when stored over as long periods as six months so is always available for immediate distribution. It requires only fourteen injections, one injection daily, as against twenty-five injections in twenty-one days for the Pasteur treatment. The physician can administer the Semple vaccine in his own office while in the Pasteur treatment each day's treatment must be prepared individually and it is usually necessary for the patient to report at some medical centre daily for treatment. The immunity produced by Semple's vaccine appears within two weeks after treatment and lasts for a variable period which has not been accurately determined. Park reports a case of apparent re-infection which occurred fourteen months after treatment.

There are certain diseases such as measles and anterior poliomyelitis which have so far resisted all efforts to identify the virus. People who recover from these diseases have, however, an almost absolute immunity against subsequent attacks. Blood serum obtained from these immune individuals is known as convalescent serum and owes its value to the fact that it contains antibodies built up by the donor during an actual attack of the disease. Convalescent serum is specific and produces a passive immunity similar to that produced by an antitoxin but differs from antitoxin in that it is a human serum, therefore contains no foreign protein and cannot produce an anaphylactic reaction. The convalescent serum of measles is especially useful as a passive prophylactic in the case of infants and young children who have been exposed. The dose is usually about six or eight cc. and the protection lasts only two or three weeks.

#### INFANTILE PARALYSIS

Convalescent serum of infantile paralysis would, of course, produce a similar passive prophylaxis but is so difficult to obtain that its use is usually restricted to the treatment of definitely diagnosed cases of the infection. The usual treatment dose, given after diagnosis and before the appearance of paralysis, is 20 c.c. Increased pressure within the spinal canal is probably a factor in producing paralysis so a spinal puncture is indicated not only as an aid to diagnosis but also as a definite therapeutic measure. The fluid under pressure should be drained off for diagnosis and in serious cases about half as much convalescent serum previously warmed to body temperature may be slowly returned intrathecally before the spinal needle is withdrawn.

The remainder of the 20 cc. dose may be administered by a deep intramuscular injection, usually into the gluteal muscles.

Some pathogenic micro-organisms which do not produce a soluble exo-toxin have been found to contain an endo-toxin which has definite immunizing value. This endo-toxin is contained within the bacterial cell and is liberated when the bacterial cell is destroyed. Such a preparation, made up of dead bacterial bodies, is called a vaccine. Of the many vaccines it is probable that the one used to produce an active immunization against typhoid fever is the best known.

#### TYPHOID FEVER

Compulsory vaccination against typhoid in the Army during the later war has proven definitely the value of this product. Satisfactory immunization requires three injections of vaccine at intervals of about one week, the reactions are comparatively mild and the immunity induced lasts over a period of two or three years or longer. It is doubtful if this vaccine has any value in the treatment of acute cases of typhoid fever. The polyvalent vaccine, protecting against both typhoid and paratyphoid fevers, is the prophylaxis of choice because it causes no more discomfort than the straight typhoid vaccine, yet protects against three diseases instead of one.

Because of its convenience the Widal reaction has for many years been the standard test for typhoid fever. Requiring as it does only a drop of dried blood, the specimen for examination may be obtained with a minimum of discomfort to the patient. But the Widal reaction has many limitations; accurate dilutions of the serum are impossible, the reaction is usually not positive before the ninth or tenth day of the disease, while only from fifty to sixty per cent of cases show a positive Widal reaction by the end of the second week. On the other hand, typhoid bacilli may be isolated from blood cultures or faeces during the first week of the disease and a small specimen of whole blood permits accurate dilutions of the serum and the making of a macroscopic agglutination test which is of much greater value in diagnosis than the Widal reaction.

#### WHOOPIING COUGH

Pertussis vaccine has met with a considerable degree of popular favor not only as a specific agent for active immunization against whooping cough; but also in the treatment of acute cases of the disease. The general consensus of opinion seems to be that this vaccine has definite value as a prophylactic and that its use in acute cases of whooping cough results in a shortening of the period of spasmodic cough.

Autogenous vaccines occupy a very definite and well defined place in modern medical practice. In many infections, particularly those produced by the pyogenic cocci, the results obtained from an autogenous

vaccine are very gratifying to both patient and physician. Their value is, of course, entirely dependent upon the isolation of the organism responsible for the infection. Many autogenous vaccines prepared from organisms other than the pyogenic cocci have proven useful in the treatment of various ailments. As a general rule the amount of immunity induced is increased in direct proportion to the number of injections of vaccine. In a majority of cases vaccines require parenteral injection in order to be of value.

The vaccines and toxins do not contain horse-serum but all of the common antitoxins do, and a small percentage of persons will become sensitized to horse-protein, even from prophylactic dosage of antitoxin. Subsequent doses of antitoxin may result in serious reactions in these individuals unless proper precautions are observed. Persons who suffer from hay fever, asthma or discomfort in the presence of horses are hypersensitive and should never receive antitoxin without previous desensitization. This is often a very slow process requiring the initial injection of minute doses of antitoxin with careful attention to reaction and repeating the injections with gradually increasing amounts at intervals of thirty minutes, until a full therapeutic dose has been given.

Fortunately serious anaphylactic reactions are rare but in administering antitoxins it is a wise precaution to have adrenalin solution available for immediate use in the case of an emergency.

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### Survival of Bacteria in Water and Saline Solutions

**D**R. E. N. BALLANTYNE, Resident Pathologist of St. Joseph's Hospital, Hamilton, reported (Factors influencing the survival of bacteria in water and in saline solutions, *J. Bacteriol.* 19-303-1930) the results of an investigation carried out in the Department of Pathology and Bacteriology of Western.

He found that distilled water was a more favorable medium for the survival of *B. typhosus* than 0.85 per salt solution. The same thing was true of a number of other organisms, including *B. coli*, *B. tuberculosis*, *B. diphtheriae*, *Streptococcus hemolyticus* and *Streptococcus viridans*. The fact that *B. typhosus* in distilled water was able to survive so much longer (five times as long in the author's experiments) at room temperature than at 37° C. pointed to low temperature as a factor of considerable importance in the production of winter river typhoid in temperate climates. Sodium chloride in 0.85 per cent. concentration appeared to be toxic to certain organisms when stored in nutrient media at 37° C. Reduction in the concentration of salt in the culture media might assist in the preservation of cultures of certain delicate organisms. The duration of survival of several of the Gram negative bacilli appeared to be longer in distilled water and in salt solutions than it was on solid media.—E. M. W.



# Surgical Clinic at Victoria Hospital

A. T. BAZIN, M.D.

*Assistant Professor of Surgery, McGill University*

*(Reported by J. Martin LeBoldus)*

**D**R. A. T. BAZIN, Assistant Professor of Surgery at McGill University, addressed the Academy of Medicine on Saturday, October 11th, 1930. The clinic was held in the auditorium of the Nurses' Home, Victoria Hospital, and was well attended by both local and outside practitioners, medical students, and nurses.

Dr. Hadley Williams, Professor and Chief of the Department of Surgery, was the chairman of the occasion. In introducing the speaker, Dr. Williams made reference to Dr. Bazin's great reputation as a surgeon and as a teacher.

Dr. Bazin's address took the form of a clinic. Several different cases, which will be enumerated below, were brought in. The histories of their respective ailments were reviewed briefly but thoroughly, and commented upon by Dr. Bazin. In his discussion of each case, Dr. Bazin indicated his method of procedure under similar circumstances. We intend to note here only some of the highlights of his address. There were many additional points, worthy of mention, which Dr. Bazin imparted to his audience, by far too many to be reviewed in this short article.

**FRACTURE CASE:** An accident case, female, 49 years of age, fractured 9, 10, 11 thoracic vertebrae. Here was a case in which the symptoms pointed to an incomplete lesion of the cord. At first there was an absence of sensation from the umbilical region down, but with a positive Babinski. Then, after a few days, some sensation returned, which showed that there was something coming through, and that there was not a complete pulping of the cord.

*Discussion:* The treatment is laminectomy even if the symptoms point to a pulped cord. Moreover, if any reflex be present, even a pathological one, laminectomy is imperative. Laminectomy does not remove the support from the cord, for the pedicles are still present. The stakes are high. The cord is an important structure and every effort must be made to relieve the paralysis of the limbs and the bladder. The further treatment consists in preparing the muscles for the reception of nervous impulses. The muscles must be made to contract either by active or passive movement, electrical stimuli, etc.

**APPENDICITIS:** In a boy 9 years of age in whom an appendectomy had been performed.

*Discussion:* In cases of this kind in young children think of the respiratory tract. Rule out pneumonia first. Appendicitis, as a rule,

is not associated with a high temperature except with pus under pressure, peritonitis or an intermittent high temperature with ascending pylephlebitis. So with a high temperature in children, even though the symptoms are of abdominal origin, suspect a chest condition.

(1) Incision: In these acute appendix cases, Dr. Bazin favors the split muscle incision, viz., an enlarged McBurney's, in which he splits the sheath of the rectus below the semilunar fold, and retracts the muscle medially. By means of this incision all types of appendices, except the sub-hepatic, which is a rare location, may be readily reached.



Two points in favor of this incision are (1) it heals just as rapidly as a McBurney, (2) the nerve supply is not interfered with.

(2) Drainage: In a matter of drainage, a good rule to remember is, "When in doubt, don't drain." Dr. Bazin drains only in cases of: (1) mass infection, (2) uncontrollable oozing of blood in the presence of infection. For purposes of drainage he uses a rubber tube split spirally which makes it flexible. This is left in situ and the gauze within the tube may be replaced at will. This makes capillary drainage possible. Dr. Bazin claims that residual abscesses are just as common

in a drainage practice as in non-drainage. In pneumococcal peritonitis he employs a puncture drain in the abdominal cavity.

(3) Peritonitis: According to Dr. Bazin peritonitis kills by the absorption of toxins which produce what might be termed a high tide toxæmia. Two things are necessary in the treatment of peritonitis: (1) decrease absorption, (2) increase elimination. To do this we depend on the kidneys, and the vehicle is water which must be supplied to the patient in any possible way. Dr. Bazin's method of choice is hypodermoclysis, and the position is the axillary space. To get into this space grasp the pectoralis major muscle and push the needle through its lateral border into the axillary space.

(4) Vomiting: Intestinal obstruction results in overflow vomiting. In the treatment of this condition one must consider the harm it is doing, viz., that it eliminates the body chlorides. These must be restored *not* by the use of 10 or 15 per cent sodium chloride, but with a 2 per cent solution, 500 c.c. at a time preceded and followed by normal saline. To ascertain the blood urea is an aid in the diagnosis of intestinal obstruction and gastric dilatation. If it reaches 50 mgms. per cent the prognosis is bad, for by then a vicious circle has been established in that the proteose formed will be absorbed into the circulation and will stimulate the production of more blood urea.

(5) Spastic Ileus: This condition is due to interrupted or incoordinated peristalsis. The pain is referred to the epigastric region and is colicky in nature. These gas pains are due to the spasticity of the bowel. The rule is do not attempt to move the bowel for 48 hours after the operation. Use morphia, it is soothing and non-irritating. If the patient passes flatus spontaneously the spasticity has been overcome.

(6) Paralytic Ileus. This condition is due to the absence of peristalsis. The pain is due to distention. The thing to do therefore is to stimulate peristalsis by such methods as: enemata (milk and molasses), eserine by hypo., infundin B. & W. intramuscularly. Dr. Bazin's practice is to give infundin followed immediately by an enema. The repeated emptying of the stomach also is beneficial. If all these measures fail, with the intestinal muscle unresponsive, the distended condition of the bowel interferes with the venous circulation, and, therefore, a high jejunostomy must be done and the higher up the better. In desperate cases a low ileostomy with a high jejunostomy may be advantageous. Caecostomies in these cases are of no benefit, because it is the small intestine which is paralyzed.

RECURRENT APPENDICEAL ABSCESS: This case had an appendectomy performed one year ago. He had an appendiceal abscess at that time. He is back again in the hospital with a recurrent appendiceal abscess.

*Discussion:* (1) In cases of old abscesses where the walls are well formed, leave the appendix and drain the abscess. After recovery have

patient return for the removal of the appendix. (2) In young, acute abscesses with the walls not organized, go after the appendix. There should be no residual abscess one year after an appendectomy unless perhaps it is due to the presence of some foreign body.

**BANTI'S DISEASE:** This was a case of Banti's disease in a girl of 13 years, which had reached an advanced stage, viz., cirrhosis of the liver with ascites. This case has been progressing for two and a half years. Some of the signs and symptoms were: subcutaneous hemorrhage, also some hemorrhage under the mucous membranes, bleeding from the ears, oedema, vague body and joint pains, asthenia, and splenomegaly. The blood picture showed: leucopenia, normal platelets and a diminished red blood cell count.

*Discussion:* The case having progressed as far as it has, with cirrhosis of the liver with ascites, splenectomy would be of no advantage. Ascites is the big factor now. The only course of procedure now is omentopexy, i.e. an operation to bring out the omentum and suture it to the abdominal wall and as soon as an adequate anastomosis is established between the portal and systemic circulations, the ascites will disappear.

Splenectomy is successful in three conditions: (1) early Banti's disease, (2) Hemolytic jaundice, especially the acquired type, (3) Thrombocytopenic purpura. In some cases of Banti's disease the adhesions tend to be profuse. If so, tie off the splenic artery.

Dr. Bazin made a great impression on all present. He is, without a doubt, a man of very considerable native ability, of profound erudition and of vast medical experience. He possesses another great asset, that of being a natural teacher.



# Special Measures in the Treatment of Pulmonary Tuberculosis and Some Other Chest Conditions

L. C. FALLIS, M. B.

*Assistant Superintendent Queen Alexandra Sanatorium*

THESE measures are not to be considered in any way as substitutes for rest, which has served us so splendidly over many years in our fight against tuberculosis and which has been the most effectual agent available in the treatment till the past fifteen years. We feel that rest has done more towards effecting improvement and recovery in tuberculosis than all other forms of treatment combined.

Surgical treatment is to be considered only as an adjunct to the rest cure. In that role, in selected cases, it has been the means of restoring many to comparatively useful and happy lives who would, otherwise, have gone steadily down the road to the end. There are many patients with tuberculosis who do well on rest. There are many others who, on rest alone, are gradually losing ground, but in whom artificial pneumothorax, in conjunction with the rest, will turn the tables in their favor and thus assist them to various degrees of recovery. Moreover, there is a time in the progress of almost every far advanced and retrogressive case of pulmonary tuberculosis when the patient's chest condition is suitable for compression therapy, and the onus of not allowing that stage to pass without giving this treatment due consideration rests upon the physician in charge. Every time pulmonary tuberculosis is diagnosed, the question of the patient's suitability, or otherwise, for pneumothorax should always be in the background. Although it is not always wise to resort to the treatment, the possibility of pneumothorax should be given due consideration as a precautionary measure "not to let the patient that may not be doing well gradually become worse and more involved till the one method of helping him can no longer be considered because of extensive disease on both sides, or because of inability to find a pleural space with the needle, due to adhesions."

In the selection of cases of pulmonary tuberculosis for artificial pneumothorax, one would prefer those with unilateral disease, or as nearly so as possible. Frequently, however, in order to give a retrogressive patient a final chance, it is necessary to accept cases which have considerable bilateral involvement. But, here again, the one side should be markedly worse than the other. In many of these cases the improvement is often surprising and encouraging.

Some advocate compression in almost all patients with more or less unilateral involvement, regardless of the fact that there may be only a very minimal lesion and without taking time to see what rest alone will do for them. This seems rather radical and one questions whether

they are justified in routinely committing the patients to the inconvenience of a prolonged course of compression which must last over a period of two or three years, at least, before one would have any confidence in permitting the re-expansion. On the other hand there is much to be said in favor of doing pneumothorax early. In the first place there is not the same likelihood of an adherent pleura preventing compression as there is in later cases, that so often have considerable pleuritis throughout their course. Again, a complete collapse may be expected in a much larger percentage of cases done early and thus you avoid what so often occurs, collapsing the air containing lung, while the densely involved part, usually the apex, with probably cavitation, is left unaffected because of the local adherence of the two layers of the pleura. It is also probable that complications, such as effusion and tuberculous empyema, would be less frequent.

The reasonable course to adopt would seem to be between the two extremes and it should be considered in all those cases of unilateral and definite involvement, and, where there is no immediate indication, such as cavity of a size not expected to heal spontaneously, to permit the patient two or three months' rigid rest, and at the conclusion of the period to reconsider the case and act according to the picture then presented. It may be said that the age between sixteen and twenty-five years is particularly suitable to the institution of this treatment.

In deciding on the benefit of artificial pneumothorax in advanced cases with bilateral involvement, one is confronted with the question as to whether the better lung will stand up under the extra mechanical strain, and as to whether there is sufficient good lung left to carry on the respiratory functions without embarrassment. It may be said that the body is supplied with six times the amount of lung tissue required to maintain life and the extra work imposed on the functioning lung does not often become a real factor in the affair. It is generally conceded that the successful collapse of the mainly involved area so relieves the body from absorption of toxins, due in no small degree to the collapse of the lymphatics through which the absorption takes place, that the contra-lateral lung shows rapid healing in spite of carrying on the complete respirations of the whole body. The patient's progress must, however, be carefully watched and if the functioning lung shows extension of the disease, the treatments can be discontinued at any time and the lung allowed to re-expand.

Pneumothorax is also a splendid emergency measure in the treatment of that most alarming symptom in tuberculosis, namely, hemoptysis. Hemorrhage from the lung occasions one of the most distressing times through which many patients with tuberculosis pass. Air admitted into the pleural space on the side from which the bleeding is coming will, in a large percentage of cases, control it almost immediately. After a few days, or a few weeks, as circumstances may indicate, the treatments may be discontinued if desired.

In the treatment of lung abscess pneumothorax has been used with some degree of success. If the case is seen fairly early, before there is a hard fibrous wall formed, and gentle compression used, a complete cure may be effected in a number of cases.

In bronchiectasis, in which the bronchial changes have been chiefly confined to one side, compression has been used somewhat extensively but not with as encouraging results as in these other conditions.

Artificial pneumothorax is not always clear sailing. There are certain complications which may arise and which must always be given due consideration when advising the procedure. In at least twenty-five per cent. of selected cases, one is unsuccessful in making an entry because the pleural space has been obliterated by adhesions. Again, effusion occurs in fifty per cent. or more of the cases at some time during their treatment. The cause of this is not known. The pleura is usually tuberculous and the air is a foreign substance. Again, a space is created which nature always seems to have a tendency to fill. Fortunately, most effusions in these cases cause no serious results and in no way impede the efficiency of the collapse or the steady progress of the patient. The fluid maintains the collapse as well as the air but is not as easily controlled. It should be left alone unless there are indications for aspiration, such as the patient complaining of distress, or unless the amount present is excessive. Most of these fluids are absorbed in a few months. The patient is aware of its presence only by the feeling of it splashing. Occasionally the effusion becomes purulent and a tuberculous empyema develops which is always to be considered serious. In tuberculosis empyemata thoracoplasty has been a great boon, offering another hope to the patient who would otherwise probably have been doomed. Through the adoption of this operation, many of the patients who have been gradually going down hill with chests full of tuberculous pus have been given a new lease of life and are performing some light occupation and leading a comparatively normal life.

Thoracoplasty should always be considered in those cases selected for pneumothorax in whom the attempts to establish the treatments have been unsuccessful because of adhesions. Where the patient's general condition seems to warrant the risk, the more radical operation is frequently indicated. Probably the largest class of patients for whom thoracoplasty should be considered is that of incomplete collapse by pneumothorax. There are many of these who improve to a certain stage and then remain stationary because of the impossibility of compressing the densely involved tissue due to adherence of the pleura. In this uncollapsed portion of the lung, cavities of various sizes can frequently be seen radiographically. The bringing together of the walls of these cavities is certainly one of the most important factors in effecting the result one hopes for when adopting the treatment. All these cases should be considered as prospects for thoracoplasty. It is probable that a fairly large percentage of them are suitable for and would experience considerable improvement by that operation.

Phrenicectomy, or extraction of the phrenic nerve, is often a valuable measure in controlling lesions which are chiefly basal. This operation is also frequently used in conjunction with artificial pneumothorax where the compression secured is not sufficient. It is usually used to paralyze the diaphragm as a preliminary measure to the more extensive thoracoplasty operation. Phrenicectomy should be performed before a successful artificial pneumothorax case discontinues treatment.

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## Factors in Glycemia and Glycosuria

THE morning glycosuria of the severe diabetic was oftentimes difficult to control. The morning dose of insulin was usually greater than at other times of day. The amount of food consumed, and the lag in glycogen formation in the tissues in the morning after the inactivity of the night were important factors. Dr. Watson studied the relationship between blood-sugar concentration, the hourly output of sugar in the urine and the reaction of the urine in diabetic and non-diabetic on a standard diet. There seemed to be no constant relationship between the reaction of the urine and the sugar content of the blood and urine except perhaps during the morning. When breakfast was omitted, an increase in the output of sugar in the urine occurred, and in the case of diabetic individuals, there was an obvious rise in the blood sugar as well. These increments accompanied an increase in the alkalinity of the urine.

Since it has been shown by Dr. Watson that the morning alkaline tide of the urine appeared to be related to an alteration in the acid base balance associated with the change from the sleeping to the waking state, it was suggested that the same process of readjustment might be a factor in causing an increase of the blood and urinary sugar during the early part of the day. (Factors which may influence the sugar content of the blood and urine: *J. Lab. Cl. Med.* 15—234—1930.)



# A Case Report of Acute Lymphatic Leukemia

F. J. KIRVAN

THE following resumé of a case of lymphatic leukemia merits recording because of the comparative infrequency with which it is met with in a child so young.

The patient, a baby girl three years old, had been in apparent good health except for a noticeable loss of appetite. Suddenly she developed an attack of diarrhoea. This condition cleared up in about three weeks. At this stage she began to lose weight and to show signs of general malaise. Examination revealed nothing except an abnormal number of pus cells in urine, for which she received potassium citrate. With little or no improvement being shown and after a period of one month of ill health, the child was at length removed to the hospital.

Examination on admission revealed a pale, sallow-complexioned child. Her spleen was easily palpable. The liver was enlarged to the extent of about two finger-breadths below right lower costal margin. Subcutaneous hemorrhages were present over the various pressure points of the body, especially over the elbow and the spine. The inguinal lymph glands on right side and the auxiliary glands of the left side were palpable. She had a temperature of 103° F., a pulse of 125 and respirations of 30. The blood picture was typical of lymphatic leukemia. The red blood cells were 281,000 per cmm., the white cells 53,000 per cmm., the hemoglobin 45 per cent., the lymphocytes 98 per cent., the polymorphonuclears 2 per cent. Two days later the white count rose to 133,600 per cmm., but, after X-ray treatment this gradually fell to about 30,000 per cmm. No further increase was noted until just prior to death. Very little if any improvement was shown by the child during her two weeks stay in the hospital. Two days before her death blood showed: Red blood cells, 1,600,000 per cmm.; white cells, 34,560 per cmm.; hemoglobin, 20 per cent. The pyrexial attacks which sometimes accompany this disease were prominent. The range of temperature was between 97° F. and 105° F. per rectum. The child was practically free from hemorrhages except for two minor nose bleeds and the purpuric spots seen on admission. An attack of pneumonia of two days duration was the cause of death. Total duration of sickness was about six weeks. If her temperature had been normal, blood transfusions would have been considered. An autopsy was not obtained.

## SUMMARY

This case was of interest for two reasons: (1) The possible infectious origin of gastro-intestinal tract with resulting toxemia; (2) her age (three years). Usually it occurs in young adults and more often in males.

In addition, it presented the usual findings, namely: (1) A typical blood picture, (2) an enlarged spleen, (3) an enlarged liver, (4) enlargement of other lymph glands, (5) pyrexial attacks, (6) a tendency to hemorrhage.

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## Rare Heart Anomaly

E. L. ARMSTRONG, M. D., *Erie, Pa.*

MRS. L. P. W—, aged 27, had shown increasing cyanosis since birth. This became marked at the age of 14 following pneumonia. Of later years she has had a persistent cough, dyspnoea, cyanosis, and recurring attacks of bronchitis. She married at the age of 23 and has one living child. She was admitted to the hospital five days before her death suffering from advanced lobar pneumonia.

The entire body, which was 68 inches in length and weighed only 100 pounds, was extremely cyanosed and there was marked clubbing of the fingers. The pleural and pericardial fluids were increased. There was a well marked pneumonic process at the left base. The heart was enlarged, weighing 600 gm. and showed great distention of the auricles. The vena cava and pulmonary vessels were twice the normal size. Examination of the heart showed the following anomalies: (1) the transposition of the large vessels with the aorta to the right and anterior, while the pulmonic was displaced to the left and backward; (2) a large defect in the inter-auricular septum measuring 2.4 cm. in diameter and a similar defect in the upper part of the interventricular septum measuring 1.4 cm. in width. The defect in the inter-auricular septum permitted blood to flow directly from the right auricle to the left auricle, and the defect in the interventricular septum allowed blood from both ventricles to be pumped directly into the aorta; (3) advanced stenosis of the pulmonary artery, the opening of this vessel being fused into a diaphragm with a slit 1.3 cm. long; (4) an abnormal mitral valve which had two well-formed and two rather imperfect valve cusps which showed thickening of their margins and tended to project downward into the cavity of the left ventricle, the margins of the cusps were all bridged together by numerous fibrous cords; (5) tremendous hypertrophy of the ventricular walls particularly on the right side, the right ventricular wall measuring 2.3 cm. in thickness. The remainder of the organs were essentially negative except for some enlargement of the liver and spleen.

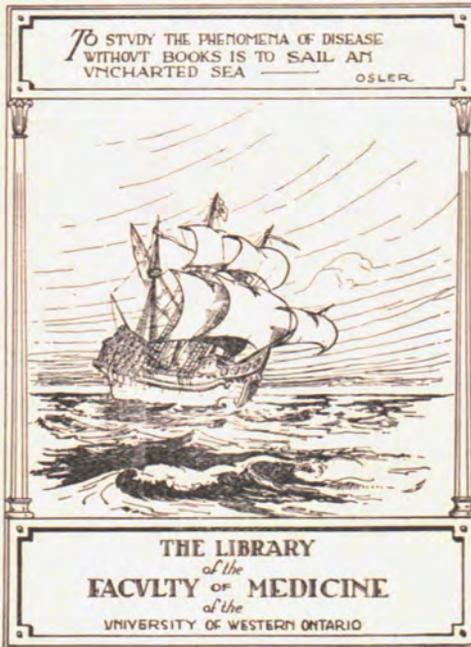
*Summary:* The interesting points about this case were: (1) the extreme cyanosis, the severity of which is probably present in no other type of lesion; (2) the fact that this individual lived to adult life and passed through periods of stress (child birth) in spite of this extensive and serious heart anomaly; (3) the tendency of these cases to suffer from pulmonary infections, and (4) the fact that death resulted from pneumonia and not directly from the heart lesion present.

# The Mariner's Compass

*"To study the phenomena of disease without books is to sail an uncharted sea."*

MADGE THURLOW MACKLIN, A. B., M. D.

*Assistant Professor of Histology and Embryology*



TO say the library is an integral part of the Medical School is to state a truism with which all of us are or should be familiar. It holds the accumulated knowledge of the past; it is the inheritance which our scientific forefathers have bequeathed to us; it is the fruit of all their labors and the fountain head of all the progress that is to come. Without it we should still be able to carry on medical teaching, we should still be able to do research work that would be more than creditable, but we would take longer to accomplish our end, and our progress would be more marked with error. For in this treasure house may be found the road maps which are

our best guide to the shortest route which we may take to our destination. The present day tourist starts forth in his car, with a chart on which are shown all the roads, listed in the order of their importance, with detours marked, places to be avoided and attractions to be noted, plainly indicated. He does not have to go on the method of trial and error, turning down this road only to find it end blindly, or pursue that trail to find that in a mile or so it turns north when he wished to go south, or to follow that highway to discover it blocked by an unbridged river. He plans his course, and keeps to it by virtue of the guide signs and his map.

Just such a function does the library fulfill. It shows the routes over which others have travelled; it hands down to us the experience gained by those who have journeyed ahead of us. As we fail to recognize its importance, as we are ignorant of its contents, so we needlessly repeat others' mistakes, or announce discoveries that have been known so long that they have been forgotten. Two instances of the many that might be used to illustrate this point will be given. In 1924 a short

article appeared in an English journal, entitled, "On a hitherto undescribed type of cell in the stomach," and it presented just the same facts that had been advanced in 1870 by the German histologist who first described these cells. A few years ago, several American clinicians made some observations which they published but which differed not one whit from those made by a Dutch anatomist two hundred and thirty years before. Much of what is published would be left unsaid if we were familiar with what others before us have written.

Or being familiar with what has been done, we can, with the aid of new techniques, push the line of inquiry still further. Knowing what gains in human knowledge have been consolidated and built into the fabric of the thought of the time, we can begin where other workers stopped, exploring the frontiers, scaling new mountains, bridging new rivers, without having to traverse step by step the way over which others have gone since the beginning of time. Our books indeed are our maps, pointing the way. But just here we must sound a warning. Even as the traveller does not rely on maps that are a decade old, knowing full well that trails that were mere paths then may be well travelled highways now, and that roads which were in use at that time have long been discarded, so the student who would journey through medicine must realize that sometimes the map he has received in the way of the accumulated knowledge of the ages may be of little value to him at the present, except from the historic standpoint. What was true, or accepted as true yesterday, is false today. New truths, or partial truths are taking its place, and these in turn will be displaced tomorrow.

Why then learn that which has been done in the past; why not discard it all, and wait until the final light breaks instead of chasing these will-o'-the-wisps of fantasy? Paradox that it is, it is only by accepting the partial truths of today, proving them false tomorrow, and substituting in their place observations with less of falsity and more of truth that we progress toward the goal of "Things-as-they-are." The great danger into which the student of medicine falls is that he is too apt to accept as final the charts which he has, and to be indifferent to the making or accepting of new ones made for him. He takes his science as a dead subject, looks upon his textbook as a final authority, and closes his mind to that which is new, which requires the expenditure of still further time and study. If perchance his professor points out an error in the textbook, the student either regards the professor as a poor old doddering idiot who does not know much, or he discounts all that the book contains. It must be an All-or-None Law with him. Because the professor is known to him, and so lacks the glamor of the unknown textbook writer, the former alternative is the one more frequently followed. Should the textbook offer two explanations of a phenomenon it falls in the estimation of the student. He does not want theories, disturbing to the mental equilibrium, but solid ground on which to plant

his feet, undisputable facts which he can epitomize, index and learn by rote.

If the student understands the function of the textbook and its limitations it forms a very valuable part of the library, but its shortcomings must not be overlooked. The function of the textbook is to give the student what, in the opinion of the author of the book, is the most likely explanation of the phenomena under discussion. It gathers up in abbreviated form that which has been found out in the past, and still retains some semblance of truth. Because the textbook author must maintain a judicial attitude, he cannot include the most recent, because, therefore, the most untried theories. Because the publisher must make money, and because the author must have some time apart from that spent in revising the book, it is inevitably behind the times. Nevertheless it saves us the long and arduous task of reading, assorting, evaluating and rearranging all the original literature into a connected story. Dependent upon the ability of the writer of the textbook to fulfill his duty, the book is of value. But for the recent advances in the science of medicine, for the ideas that are making it a progressive vital subject, recourse must be had to that other and much more important part of the library devoted to the current journals and partly to their back files.

The great tragedy in this connection is that the student so seldom gets past the stage of reading textbooks. First of all, he tends to use the library as a study room, where he peruses either his own textbook or his notebook. Frequently, after a large number of students have been in the library and have left, there is not a displaced journal or book, showing that they are not using the library for what is in it. In the second place, if he does ask for books, most frequently they are merely textbooks by different authors on the subjects which he is pursuing. Rarely does he ever move on into that realm of scientific literature, which takes him to the forefront of the battle, that puts him on the "edge of cultivation" and the "never-never country". He seldom hears the call to the explorer that is so vividly portrayed by Kipling: "Something lost behind the ranges. Lost and waiting for you. Go." He never skirmishes out into that fascinating zone, where things are in the process of being found out, where each step forward may land one into a bog, where the cautious investigator has to carefully keep one foot on the solid ground of "what-is-known", while feeling for a safe foothold out in the region of "that-which-is-yet-to-be-discovered". Not infrequently the investigator fails to arrive on solid ground, but it may be that some stray hint, some word of the realms he hoped to explore, may start another thinking, and with new ways, over new trails, the unknown is again searched for and perhaps found. The beauty of it all is that, even if the first man never reached his destination, he helped to carve the steps by which the other man climbed, he blazed the first few trees, which set the other aright. The reward of it is not that he

ultimately arrived, but that he tried, and that by his efforts he helped to make possible the final discovery.

It is into this realm of the marvellous that the journals with their records of research lead us, and which to the student usually means an untravelled waste. He fails to grasp their significance, and to realize that they are furnishing the materials from which the writers of textbooks twenty years from now will be compiling their books. He prefers to wait another twenty years, and get the thrilling story second hand. He misses, however, the great interest and the great opportunity in scientific medicine. Even if he does not become an experimentalist in the laboratory searching for new truths, it teaches him the scientific method, gives the ability to weigh evidence, to demand controlled experiments either in the laboratory or at the bedside, before he accepts results. He learns that the old adage that "One swallow does not make a summer" is just as applicable in medicine as in life, and that one patient cured does not make a new therapy. He learns to evaluate methods and to judge results, because he knows how they are obtained in the making.

In some few cases, the perusal of the journals arouses in the student that questing for knowledge, that desire to contribute something new himself, that marks the birth of another research worker. He, too, becomes tired of the dogma of the textbook, the comfortable acceptance of that which has been done, and longs to help push back that curtain veiling the unknown. With Ulysses, he craves

"To sail beyond the sunset,  
"To follow knowledge like a sinking star,  
Beyond the utmost bounds of human thought."

For saking the lure of a lucrative practice, immuring himself within the laboratory, he devotes himself to the ageless hunt for the truth. He may never discover anything revolutionary, he may never startle the world by enunciating new therapeutic methods, but the facts he finds, may, in conjunction with those of other workers, be welded into a harmonious whole which may help to save thousands.

In this connection we might mention a hundred instances, but will confine ourselves to two. Ever so long ago, some worker found that the duct from a gland called the pancreas emptied into the intestine, and other workers found that the pancreas supplied ferments which helped in the digestion of food. Then some inquisitive person tied off the duct to see what would happen, and found among other things that the pancreas atrophied, but not completely. Some portions of it remained intact. Others discovered that if the entire pancreas was taken from the animal, not only did he suffer the digestive disturbances noted in the animal with the ligated duct, but he developed diabetes as well. The natural conclusion was drawn, that those parts unatrophied

after ligation of the duct were the elements of the pancreas preventing diabetes. Then many workers tried feeding the pancreas to diabetic persons to effect a cure, but it would not work. After many experiments along these lines, another worker, whose name is familiar to us all, devised his method of obtaining insulin, which although not curing diabetes, made life infinitely more comfortable for the patient. Could he have made his great discovery without all that preceding work having been done? Not at all. It was given to him to put the final stone in place that completed the structure. But had the foundations, laid years before by these numerous workers whose names we may not even remember, been lacking, there would have been no insulin today.

The other incident is even more striking, inasmuch as the observations at the basis of it would appeal to the average practitioner or student as being worse than useless. We refer to Bordet's discovery that if he injected blood corpuscles of an animal into another animal of a different species, nothing happened; but that if he repeated this procedure several days later, the corpuscles were dissolved by the blood of the animal into which they were injected. "What use was that?" asked the utilitarian student of those days. Just another observation which those incompetent laboratory men are always making but which are never of any benefit to mankind! Yet the entire science of Immunology, perhaps the most alive of all the branches of clinical medicine today, rests upon this one observation. The diphtheria anti-toxin which has helped to save thousands of children is possible because of Bordet. The ability to diagnose the obscure cases of syphilis rests upon his work.

Nor is this field one which offers aught but the joy of the work. Occasionally the man who answers the call of research pays dearly for his interest, for having once received the call, he never flags, if he be a true scientist, but is content

"To travel still,  
Over the plain, beyond the hill,  
Unhesitating through the shade,  
Amid the silence unafraid,  
Till at some sudden turn, he sees  
Against the black and muttering trees  
Thine altar, wonderfully white,  
Among the forests of the night."

And sometimes, the altar is one on which he is called to pour out "the last full measure of devotion", and science mourns another martyr. Jesse Lazear gave his life some thirty years ago that we might know how yellow fever is propagated. Paul Lewis, who did so much for the science of Immunology in working out the basis of the anaphylactic reactions, paid the final price a few months ago, while investigating the further aspects of that same disease.

The journals in the library are the medium through which the research worker expresses himself, makes known to fellow workers what he has found, invites criticism and testing of his theories, and if he be really great, welcomes the proving of any errors in his work, in order that they may the sooner be eradicated. Unless the student early forms the habit of reading the journals, offering constructive criticism, and when possible, verifying the conclusions by his own experience, he may practice medicine, but he will never be among the truly great of his profession. He will get the usual, but will miss the unusual; he will make the diagnosis that the layman will make almost as well, but will not do much more. The obscure and interesting cases will be lost on him, and very probably also, by him. Making no progress, he will slip back, because new diagnostic methods, new therapeutics will rush by leaving him stranded. Just as there are revolutionary changes in the radio, in the talkies, in science everywhere, so there are radical improvements in all branches of medicine, and the practitioner or student who fails to keep up with them through the medium of the journals is a decade behind the times, and in this fast-moving generation a decade is as bad as a century.

The relative importance which those in charge of the library place upon these two categories of knowledge, the textbook and the journal, will be illustrated by the statement that approximately four times as much is spent upon journals as upon textbooks. How much do our students appreciate their opportunities?

We have here at Western as compact, complete and usable a library as any student could desire. First of all, the stacks are open. What a rare privilege to browse among the books and journals, tasting here, sipping there, until just the right thing is found! What a difference from those libraries where you pass a slip through a wicket to the librarian, who gets the book and hands it back to you. So often one does not know what one wants, and with such a system never gets anything. Then, too, we have *all* the library accessible to *all* the students and staff, as well as to the profession in general, lending books to physicians in London and the surrounding district. We also lend to other universities. We have been in universities where the library was split into a physiological section housed in the professor's offices, and a pathological section placed in the professor of pathology's room, and so on. If one wanted a journal or a book, one rapped at the professor's door, timorously asked if one might be allowed to read such and such a book. Permission was granted, but one read it in his office, so that one constantly felt like an intruder. Next we have a veritable wealth of journals; 271 of them coming in currently, laden with information. Nor does that number include the 101 periodicals that come in yearly; statistical reports, hospital bulletins, public health information, all of it interesting and very worth while. If one is interested in the back numbers, such a large percentage of our files are complete that one seldom



turns away in disappointment. Over forty per cent of our current journals are complete sets. Many libraries which have far larger number of volumes are handicapped by fewer complete files than we boast. Odd as it may seem, it appears always to be the missing volume which the reader seeks.

Merely because they see this library every day, and are permitted to use it freely, and because the University is small, the student is apt first to belittle it, and, in the second place, to ignore it, and to go through four years without ever knowing the wealth it contains. In this connection I cannot forbear telling a wholly true story of one of our own Western students. He had been interning in a hospital in a city some distance from London, and had returned full of enthusiasm for all the things he had learned there. One of them was that a certain medical journal published in Vienna contained a great many abstracts of current



medical articles appearing in medical journals all over the world. He was quite keen about possessing such a journal which brought one into contact with such a range of knowledge. A kindly friend, well acquainted with medical literature, pointed out that in our own library we take the Journal of the American Medical Association which abstracts medical and surgical, pediatric and obstetric journals, in fact, clinical journals of all descriptions. Every week there are over 100 abstracts of leading journals published in points as far apart as Calcutta, Capetown, Buenos Ayres, Russia, Sweden, Japan, Italy, France, Germany, England, United States and Canada. Over 300 journals are on their abstracting list, so that in this one journal alone, in addition to the original articles which it publishes, there are about 5,500 articles a year which are made available to the

reader, and that in his own mother tongue. Yet this student had never noticed this journal's abstracting department, nor is he one whit different from most of them. It might be mentioned here that almost every journal in the library runs an abstract department, some of them very extensive, so that frequently one can obtain an excellent abstract of the article desired, if the original journal in which it was published is not in the library, or if it was published in a language unfamiliar to the seeker.

To the students, we would like to make the following suggestion: There is a period of two hours free in the middle of the day, not all of which is used in replenishing the physical man. Of this time thirty minutes each day could be devoted to reading in the library something not in his daily assignment. For the men in the clinical years, this should prove easy, for all the clinical journals are open to them, but for the men in the first two years at Medical School, the choice is more restricted. There are, however, all the journals in physiology, anatomy, biochemistry and pathology which have articles touching upon the subjects which they are studying. Some of the more general clinical journals, such as the Canadian Medical Association Journal, the American Journal of Medical Sciences, the Journal of the American Medical Association, the Lancet and the British Medical Journal will contain many articles that will be of interest and profit to the preclinical student.

Then there is that section of books, not textbooks, that are either historical or inspirational, which give to the student a perspective, an appreciation of the profession which he hopes to make his own. Loc's "Biology and its Makers"; Osler's "Aequanimitas" which should be on the prescribed list of reading for medical students; Paul de Kruif's "Microbe Hunters", rather racily written, but bringing before us these pioneers of science in a lifelike manner; Michael Foster's lives of Claude Bernard and Pasteur; Harvey Cushing's "Life of Osler", the most fascinating biography we have ever read; and Oliver Wendell Holmes' classical essay on Puerperal Fever are all literature that the medical student cannot afford to miss. These and others will be found on our shelves. For the student who has learned Osler's great secret, that mental rest does not involve cessation of mental activity, but merely the directing of it into another channel, these books will prove, not a drawback from his manifold studies, but a mental refreshment that will enable him to study more efficiently. He will learn to play, but he will learn that harder lesson, how to make his work turn into play. He will derive sixty minutes' worth of value from every hour, but he need not be thereby a bookworm, or an incompetent athlete. It will be merely that he will put first things first, and work efficiently.

We have a veritable treasure house of charts and compasses, sextants and chronometers. There is a stormy voyage ahead, but on us alone rests the blame if we wreck our craft, and fail to make safe harbor at the end.

# Western's Medical School---An Appreciation

L. G. ROWNTREE, M. D. '05, *Rochester, Minn.*



IT is true that our school was born in humble surroundings and reared in penury, but it came of good, honest, honorable, and to me, rather noble parentage. During pioneer days it was founded by men of vision, to meet existing and coming needs. It has met its own problems and the needs of the people then and always. It took as students what was available and acceptable in the way of raw material and it turned out doctors, the best of which it was capable. It has progressed as times have changed, and today it is listed as a Class A school. There is no question but that it is an excellent school for its age and size and it still continues to gain in wisdom and stature and in the favorable opinion of medical men. The school has a record of which we may well be proud.

Our faculty has included a considerable number of men of unusual calibre. Men such as Drs. Charles H. Moore, W. H. Moorhouse, Wm. Waugh, John Wishart, F. R. Eccles, Henry Meek, George Hodge, R. M. Bucke and H. A. McCallum are not common in any community. In fact, as I look back upon life's experience these men still loom up as great among the big men I have met in medicine. I know that we had good instruction. I question whether many medical students anywhere on this continent received sounder instruction than we did under McCallum, Wishart, Waugh and Williams. Through memory's eye I can see some of them now, expounding medicine with such zeal that it still carries fire into my very soul. They must be few indeed who got more inspiration elsewhere than I got in London from Hugh McCallum. Our buildings were poor but our teachers were excellent. More credit then to Western that she has achieved so largely, despite her early poverty.

Since my graduation a quarter of a century has come and gone. New buildings have appeared, new faculty members have come, better laboratory facilities and more clinical material are available. The school is classed as good by those in a position to judge. I visit the old school every chance I get, because the old spirit is there—real work is being done and I still get inspiration from contact with it. My own feelings for Western are only those of pride tinged with a growing sense of gratitude to those of yesterday who sacrificed so much to equip us as medical men to meet the opportunities of today and tomorrow.

# A Case Report of Hepatic Abscess

L. C. FISHER

A WOMAN 53 years of age was admitted into St. Joseph's Hospital, London, with a tentative diagnosis of gastric ulcer. She was jaundiced and had suffered a sudden severe pain in the epigastrium which was associated with shock. The hemoglobin was 50 per cent, her pulse was 120, and temperature 98° F. The abdomen gradually distended, and she complained of dyspnoea and precordial pains with progressive weakness. A mass was located in the epigastrium. On the morning of the tenth day in the hospital, shortly before she died, she passed two ounces of bloody fluid per urethra.

She had first developed symptoms some three months previous to admission to the hospital. At that time she had complained of tiring easily. During the last month her condition had progressed considerably and not infrequently she had been in a state bordering on collapse.

During the first week in the hospital she took a turn for the worse, and on the tenth day the abdominal mass was greatly enlarged. The position of the heart was slightly shifted upwards and to the right. The heart seemed to become embarrassed, dyspnoea and precordial pains followed, and death ensued.

*Postmortem:* On incising the abdominal wall a viscid, opaque, yellow, and odorless fluid welled up. An abscess sac was observed occupying the left upper quadrant of the abdomen. It was bounded above by the liver and diaphragm, and below by the spleen and posterior wall of the stomach. The sac was walled off from the peritoneal cavity, and contained about one gallon of the fluid. A bacteriological examination showed the presence of *Streptococcus hemolyticus*.

The stomach, duodenum, small and large intestine as far down as the sigmoid colon were apparently normal. The sigmoid colon and the whole of the left pelvic region was involved in what appeared to be a benign fibrinous tumor.

The uterus contained an intra-mural fibroid about the size of a baseball. The left ovary showed cystic degeneration. The bladder appeared to be congested and hemorrhagic. At the fundus the mucosa presented a circumscribed papillomatous hypertrophy, in the centre of which was a small valve-like aperture communicating with a blind diverticulum. Microscopic section of the diverticulum gave evidence of a necrotic lining, with diffuse infiltration of pus cells, and focal accumulations suggesting an abscess. The kidneys showed slight granular degeneration. The gall-bladder, and right lobe of the liver appeared to be normal. The left lobe of the liver was found to be almost completely occupied by an abscess which was eight cm. in diameter. Microscopic section showed the liver cells to be swollen and pale, and also to have evidences of granular degeneration. Glisson's capsule was infiltrated

with leucocytes. The spleen was enlarged and had a pearly appearance. Microscopic section proved the capsule to be thickened, edematous, and diffusely infiltrated with leucocytes. The sinuses appeared congested and focal areas of necrosis were observed.

*Postmortem Diagnosis:* (1) hepatic abscess, (2) chronic cystitis with papillomatous hypertrophy at base of fundus of bladder, (3) myoma of body of uterus, (4) pelvic benign fibrinous tumor, (5) acute perisplenitis and congested focal necrosis of spleen, (6) granular degeneration of liver and kidneys, (7) cystic degeneration of left ovary.

#### SUMMARY

The trouble may have originated in the infected bladder diverticulum. The infection may have been transmitted by the circulatory system to the liver, where it may have caused the hepatic abscess. The benign fibrinous mass in the left pelvic region may have been secondary to either the abscess or the infected diverticulum. As the abscess increased it perforated the liver tissue and formed a secondary abscess which was felt as the mass in the epigastrium. Death may have been due to a number of factors. It may have been due to the hepatic abscess alone, or to the general toxemia, or it may have been due to both.

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## A Significant Contribution to the Newer Knowledge of Viosterol in Rickets

One of the Mead Johnson Research Fellowships has just reported (J. A. M. A., August 2, 1930) its very thorough and extensive clinical experience with Mead's Viosterol in the prevention and cure of rickets.

Coming at a time when Viosterol is finding its proper place as a therapeutic agent of great value, this reprint, containing the charts omitted from the original paper for lack of space, should interest every physician who prescribes Viosterol or cod liver oil in rickets.

Address, without obligation, Director, Mead Johnson Research Laboratory, Belleville, Ontario, Canada.

# Advances in Oto-Laryngology

O. W. MITTON, M. D.

*Detroit, Michigan*

HAVING had the privilege of attending the meetings of the section on Laryngology and Otology at the recent meeting of the American Medical Association, it may be timely to report some of the latest advances made in this branch of the science as elucidated by the essayists.

In "Fractures Involving the Paranasal Sinuses", Dr. J. J. Shea mentioned that sinusitis should always be considered and its management early delegated to a rhinologist, thus often preventing disastrous results. Fractures of this nature are very common in these days of frequent automobile and aeroplane accidents and, as no two cases are alike, each is a law unto itself, requiring originality of treatment.

The use of iodized oil (40 per cent of iodine in oil) was stressed by Dr. H. M. Goodyear as an injection into the sinuses previous to X-ray pictures. This is particularly useful in involvement of the antrum of Highmore, where the presence, or absence, of polypi or thickening of the mucous membrane is readily demonstrated. In sphenoidal, ethmoidal and frontal sinus conditions, its use is curtailed by the difficulty of its injection and its poor retention until the picture is taken. The therapeutic value of iodized oil in cases of allergy and ozena was also noted as being worthy of consideration.

The results of research work in cases of fatal mastoiditis were given by Dr. H. J. Profant. In three instances following a thorough mastoidectomy where Gradenigo's syndrome (diplopia due to paralysis of superior oblique and a purulent mastoiditis) was present, he demonstrated what he termed a "petrositis". He exhibited dissections of temporal bones, showing two routes of cells, one the antrum-epitympanic terminating beneath the anterior surface of the petrous, the other the hypotympanic terminating beneath the posterior surface of the petrous. By these routes, infection travels inward from the middle ear antrum. This so-called "petrositis" will aid in explaining some obscure cases where, following a thorough mastoidectomy, the alarming symptoms continue and no subdural or epidural abscess can be localized.

In the diagnosis of laryngeal disease, Dr. Chevalier L. Jackson stressed the very careful investigation of "hoarseness". He was most emphatic in his plea to supplement inspection, either by the direct or indirect route, with a careful physical examination, Wassermann test, sputum examination and most important of all a searching roentgenologic survey of the neck, chest and sinuses. Dr. E. G. Gill presented statistics to show that sixty-three per cent of all extragenital chancres occur about the mouth and throat, the tonsil being the commonest site. Dr. C. S. Wright in discussing these cases put it in a very practical

way when he said, "Do not ask the patient, 'Have you been exposed to syphilis?' but 'When were you exposed to syphilis?'" Unilateral tonsillar involvement showing ulcer with indurated base and early enlarged submaxillary glands in a young adult should always arouse a suspicion of syphilis.

One of the most practical papers was entitled, "Tonsillectomy in the Treatment of Acute Cervical Adenitis", in which Dr. H. L. Baum pointed out that the accepted methods of treatment of these cases had been productive of very poor results. In fact, nothing seemed to shorten the long drawn out course of this annoying condition where the persistency of the fever, helplessness of treatment, and the anxiety and dissatisfaction of the child's parents added to the physician's troubles, until it was decided to enucleate the tonsils fairly early in the course of the disease. The operation, it was stressed, is exactly the same in technique as any ordinary tonsillectomy, but the immediate result is far more appreciated, for following the usual tonsillectomy the comparatively well patient feels worse than before, while in these cases operation improves the real sick patient at once. This physician maintained that in this procedure as in all others he was a very conservative surgeon, and that he was receiving the whole-hearted co-operation of the internists and pediatricians in this type of case. No untoward results have been noted in over forty cases operated upon.

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# Editorial

*The editors gratefully acknowledge the helpful criticism of all those who have so earnestly aided us in the preparation of this number.*

*We wish to express our obligation to the Doctors George McNeill, George A. Ramsay, J. W. Crane, and H. Alan Skinner, who have spared no pains to make this publication a success in the face of many difficulties.*

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THE University of Western Ontario Medical Journal enters the lists of the fourth estate under the purple banner of "Service," convinced of the potential utility of its presence, and firm in the belief that the future will be vindicative.

Possibly the metaphor we have employed is not an apt one, in view of the fact that ours can hardly be termed a competitive venture. We have likened the Journal to a gallant knight of Norman England, dashing to the grim and glorious encounter of the tournament. Rather, perhaps, should we compare our publication to a timorous new chambermaid, commencing her duties "strictly on approbation," and assuring the somewhat dubious mistress, "I aims to please, mum!" And we hope we've come to stay.

Our subscribers fall naturally into three distinct divisions, the graduates of the University of Western Ontario Medical School, the members of the medical profession practising in Western Ontario (non-Western graduates), and the Medical School undergraduates. The presenting opportunities for service are most fittingly classified with reference to these three groups.

For the graduates we propose to mould of the Journal another link in the chain of association, another point of contact, with their Alma Mater. In the Journal they will find articles about Western and by Western graduates, and there, we hope, they will see their own work published.



To the Western Ontario Profession we offer a publication devoted to their peculiar local problems and interest, and a sincerely cordial invitation to permit us to publish their papers and treatises.

The Undergraduates of the University of Western Ontario Medical School have, in the Journal, an opportunity which may prove invaluable. But recently a locally prominent Western graduate remarked that he had encountered a case which presented several very remarkable features, and which, he felt, might, if given to the profession, lead to a much better understanding of the disease. But he could not prepare an article for publication. He had never before tackled the problem, and was quite ignorant of how to proceed. He suffered from a complete lack of confidence in his ability to acceptably record his observations. He possessed keen powers of observation. His mental acuteness was more than ordinary. He knew he had something valuable to give. But he knew nothing of the proper method of presentation. Here was tragedy! The moral is obvious. For the undergraduates, then, the Journal provides means by which they may equip themselves for careers of the utmost utility to society, to the Profession, and to themselves.

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## Book Reviews

R. A. JOHNSTON, M.D.

### Fractures and Their Complications

BY GEORGE EWART WILSON, M. B. (Tor.), F. R. C. S. (Eng.), F. A. C. S., Surgeon - in - Chief, St. Michael's Hospital, Assistant Professor of Surgery, University of Toronto, Toronto, pp. 415, 1930; MacMillan.

This book is a distinct addition to the subject of fractures and carries to the reader all that is best in our knowledge of modern treatment. The first six chapters are an excellent introduction to the subject dealing with general

considerations and repair of fractures and physiotherapy. The subject matter is orderly arranged and no major points are left untouched.

The author stresses the use of the fluoroscope, and sets forth reasons for his enthusiasm in this direction. Ample space is given to the proper methods of manipulation in reducing various fractures and Dr. Wilson removes any doubt as to the value of plaster of paris. He uses it wherever possible. The complications of different fractures are dealt with in

an exhaustive manner, every detail being made clear and if dogmatic on some points, the reader has no room to doubt the author's opinion. The force and the straightforwardness of the author is discernible throughout the entire book and it is a pleasure to know that the valuable experience of this trained experienced Canadian surgeon is now available.

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### A Textbook of Orthopedic Surgery

By Willis C. Campbell, M. D., F. A. C. S., Professor of Orthopedic Surgery, University of Tennessee; pp. 705, 1930; Saunders; \$9.50.

The effort of the author to present his extensive subject in an ordinary sized book, containing many excellent illustrations, will make this a popular work.

The arrangement of the chapters is very convenient for reference and the type is very readable. The opening chapters on examination and apparatus will be most welcome by students and members of the profession who hitherto have been confused by the contrivances of splint makers and the manipulations of specialists. The final chapters on static deformities and congenital anomalies are very much condensed, and the hip and the foot given most consideration. It was rather a surprise to find that no special chapter on physiotherapy was included. The inclu-

sion of chapters on dislocations and fractures makes the book attractive to the general practitioners, but the subject is too condensed to be termed a textbook. The discussion on traumatic arthritis is excellent and will be a great aid to practitioners who are called on to treat injuries of this class. The notes on the proper method of adhesive strapping will be very useful. As would be expected, Dr. Campbell has given a very lucid description of his "bone block" operation for drop foot and discusses tarsal arthrodesis at length.

This book will form a ready reference, and with its bibliography, further information is readily accessible.

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### The Robert Jones Birthday Volume

*A Collection of Surgical Essays with a Preface*

BY SIR BERKELEY MOYNIHAN,  
Bart., K. C. M. G.

pp. 434, 1928, Milford, London.

THE reviewer has read this volume several times and still must pause when asked for a brief review. Whether to write of Sir Robert Jones or of the many excellent essays which form a substance of the book is difficult to decide. Sir Berkeley Moynihan in his admirably written preface tells of the occasion, "This volume, written by a band of brothers, is dedicated with greatest respect and with

warmest affection to Sir Robert Jones on the occasion of the seventieth anniversary of his birth."

The list of contributors contains the names of leading orthopedic surgeons of Great Britain and others from the Continent and the United States, and all of whom acknowledge in Jones their teacher and their friend.

The subject matter of the essays is a remarkable exposition of our present day knowledge of orthopedic surgery, each of the contributors writing on a subject with which he is especially familiar. It is especially gratifying to Canadians to find that the late Clarence L. Starr, former professor of surgery at the University of Toronto, is included in this select list of authors and his essay on "Acute Infections of Bone" is a masterpiece and could only have been written by a surgeon who has had a wide experience in this field.

The first essay of the volume, "Orthopedics Before Stromeyer," is made even more interesting by notes on the lameness of Scott and Byron.

The papers on "Fracture, dislocation of the ankle" by Trethawan, "Side lights on knee joint surgery" by Smith, "The diagnosis of internal derangements of the knee" by McMurray, and "Rotation or spiral fractures" by Mitchell will be found to be very helpful to the average reader. Osgood of Boston contributes a paper on "The association of intestinal stasis with spinal and sacroiliac 'Arthritis'." This essay brings forth fresh evidence in support of Lane's views on the subject.

For those more interested in special orthopedic problems, every one of the remaining papers can be cited as the last word in its own field, wherever surgeons make "orthopedic rounds" and in operating theatres the world over the "Birthday Volume" is known and cited as authority.

It was a happy thought on the part of Sir Robert Jones' colleagues to so honor their master, and not only to demonstrate on the written page that his teachings have brought forth fruit but also to show the esteem in which he is held among surgeons.

