

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- |                                     |   |                                     |   |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/>            | Coloured covers /<br>Couverture de couleur  | <input type="checkbox"/>            | Coloured pages / Pages de couleur   |
| <input type="checkbox"/>            | Covers damaged /<br>Couverture endommagée   | <input type="checkbox"/>            | Pages damaged / Pages endommagées   |
| <input type="checkbox"/>            | Covers restored and/or laminated /<br>Couverture restaurée et/ou pelliculée   | <input type="checkbox"/>            | Pages restored and/or laminated /<br>Pages restaurées et/ou pelliculées   |
| <input type="checkbox"/>            | Cover title missing /<br>Le titre de couverture manque  | <input checked="" type="checkbox"/> | Pages discoloured, stained or foxed/<br>Pages décolorées, tachetées ou piquées  |
| <input type="checkbox"/>            | Coloured maps /<br>Cartes géographiques en couleur  | <input type="checkbox"/>            | Pages detached / Pages détachées  |
| <input type="checkbox"/>            | Coloured ink (i.e. other than blue or black) /<br>Encre de couleur (i.e. autre que bleue ou noire)  | <input checked="" type="checkbox"/> | Showthrough / Transparence  |
| <input type="checkbox"/>            | Coloured plates and/or illustrations /<br>Planches et/ou illustrations en couleur   | <input checked="" type="checkbox"/> | Quality of print varies /<br>Qualité inégale de l'impression  |
| <input checked="" type="checkbox"/> | Bound with other material /<br>Relié avec d'autres documents  | <input type="checkbox"/>            | Includes supplementary materials /<br>Comprend du matériel supplémentaire   |
| <input type="checkbox"/>            | Only edition available /<br>Seule édition disponible  | <input type="checkbox"/>            | Blank leaves added during restorations may<br>appear within the text. Whenever possible, these<br>have been omitted from scanning / Il se peut que<br>certaines pages blanches ajoutées lors d'une<br>restauration apparaissent dans le texte, mais,<br>lorsque cela était possible, ces pages n'ont pas<br>été numérisées. |
| <input checked="" type="checkbox"/> | Tight binding may cause shadows or distortion<br>along interior margin / La reliure serrée peut<br>causer de l'ombre ou de la distorsion le long de la<br>marge intérieure. |                                     |   |
| <input checked="" type="checkbox"/> | Additional comments /<br>Commentaires supplémentaires:  |                                     | Continuous pagination.  |

# The Canadian Practitioner and Review.

---

---

VOL. XXX.

TORONTO, MARCH, 1905.

NO. 3.

---

---

## Original Communications.

---

### EXCISION OF THE WRIST.\*

---

BY FREDERICK W. MARLOW, F.R.C.S., (ENG.).

---

The operation of excision of the wrist as described by Lister, in 1865, involves not only the complete removal of the carpus, but also a portion of the lower ends of the radius and ulna and of the bases of the metacarpal bones as well. It is performed chiefly for tuberculous disease, the object of such a complete operation being the entire removal of all articular surfaces and the complete eradication of all the complicated, contiguous, synovial membranes of the various joints, on account of their liability to rapid involvement whether the disease commences in the synovial membrane, the lower end of the radius or elsewhere. But even in tuberculous cases, although perhaps not wisely, it has been subjected to many limiting modifications, and undoubtedly it is the case that when the operation is called for by other indications, a more limited one will often suffice, the conditions presented by the individual case being taken as a guide to the amount of necessary removal of bone.

Besides tuberculous disease, which unfortunately occurs more rarely alone, and isolated in the wrist than in any other joint, conditions from which indications for its excision, either partial or complete, may arise, are infection resulting in necrosis and chronic suppuration; wounds, especially of the gun-shot variety; ankylosis in a markedly faulty position; irreducible dislocation of the wrist or subluxation of the lower radial epiphysis, and compound, comminuted fractures of the carpus or lower end of the radius.

---

\* Read at the meeting of the Toronto Medical Society, February 16th, 1905.

In considering the advisability and applicability of excision of the wrist it is important to observe carefully the general condition and fitness of the patient as well as the local condition present. It is essential that the vitality and recuperative power should be undeteriorated by phthisis or by any marked degree of amyloid disease, chronic sapremia or other organic disease, the desirable age limit being not less than five nor more than forty-five years. As regards the local condition due consideration should be given to the extent of the disease in the joint, the condition of its surrounding parts, the presence of acute disease, and to the possibility of thoroughly removing the diseased parts and preserving for the patient a useful hand. No definite rule can be formulated, and it is necessary to judge each individual case by the actual condition present. Should the involvement of the bones and their destruction be great, and the soft parts extensively destroyed by sinuses and the muscles much atrophied, or should acute disease be present, the case would in all probability be considered unsuitable for the operation.

Of the methods of operating, the most frequently employed are those of Lister, Ollier, Langenbeck, König and Kocher. The former two are characterized by a metacarpo dorso-radial and a metacarpo-carpo-ulnar incision differing somewhat in each case, and in Ollier's method a short incision is added on the radial side for purposes of drainage. In the latter three a single dorsal incision alone is used, that of Langenbeck being a metacarpo-dorso-radial, while König's is a similar one, though not so extensive, in an upward direction, whereas Kocher's is a metacarpo-dorso-ulnar one. All are complicated and tedious, as must always be so, and the method chosen should be the one that would seem to facilitate the operation in the individual case. Remembering the principles, the requirements and the possibilities of the operation, with the extent of the disease as a guide and with an accurate knowledge of the anatomy of the part, though this is often much obscured by the disease, the details are best worked out as the operation proceeds. No diseased bone or synovial membrane should be allowed to remain and if it be found necessary to perform so complete an operation as Lister described, such should be done. It should always be borne in mind, however, that a better result is likely to ensue if it is possible to preserve intact some of the structures which are divided in Lister's operation, namely, the tendinous insertions of the radial and ulnar extensors and the ulnar flexor of the wrist and the origin of the thenar and of the hypothenar group of muscles. If it is possible to complete the removal of the diseased parts without sacrificing more than the upper and lateral articular cartilages and

surfaces of the metacarpal bases; and at the same time to leave the trapezium, the pisiform and the hook of the unciform, such preservation may be accomplished. Before the actual operation is commenced an attempt should be made to freely flex and extend the fingers, special attention being given to the metacarpo-phalangeal joints, and during the operation the tendon sheaths, if undiseased, should as far as possible be preserved intact. As a rule an attempt has been made to preserve all undiseased periosteum. Such a step is strongly advocated by Ollier, who claims that the subperiosteal method brings about a stronger connection between the forearm and metacarpus and decreases the tendency to the establishment of a flail-joint. On the other hand, it should be remembered, that the periosteum is frequently much involved by the disease, and as the diseased parts must be removed it will be at best a tedious task to select and separate off the healthy parts from the bones; and what remains in scattered areas is likely to retard rather than hasten, and to interfere with the accurate approximation of the bones of the forearm and of the metacarpus which is brought about by the contraction of the surrounding soft parts and by the adaptation of the muscles and tendons to the decreased length of the limb segment.

The preliminary application of an Esmarch's bandage facilitates the operation, but when it is removed, free oozing of blood is likely to occur from small injured vessels and from any cut surfaces of bone. On this account adequate gauze drainage should be provided for at least twenty-four hours.

After the application of a copious absorbent dressing a retentive splint is applied to the part with the hand very slightly extended and the forearm flexed and in a semi-pronated position. Lister and Ollier devised special forms of splints for use in such cases, but an improvised, straight, and carefully padded anterior splint will answer very well. When first applied it may extend from just below the elbow to the finger tips, but after the first two days have passed, at which time movements of the fingers should be begun, it should be shortened so as to terminate just above the metacarpo-phalangeal joints, thus allowing the patient to move the fingers at will. Caution should be given to have this done frequently, not neglecting the thumb, and making the movement active in the metacarpo-phalangeal joints. To allow of the proper approximation of the ends of the bones the splint should be removed and readjusted every second day, the wrist being kept steady until the end of a week, when its passive movement should be undertaken and subsequently repeated with at least second day frequency until the chance of bony ankylosis ensuing is obviated, the ultimate aim being fibrous union and a movable joint. As

soon as sufficient strength and firmness is attained to prevent the hand assuming an abnormal position the splint may be dispensed with, and so long as the hand retains its normal attitude with relation to the forearm the wearing of a mechanical support would seem to be unnecessary. Gentle exercise should be encouraged, and electricity and massage may be employed with benefit. Attempts at opposition of the thumb to the fingers should be persistently insisted upon as well as all other movements of the fingers and the new joint, and likewise pronation and supination of the hand and forearm.

The operation may be followed by failure, the establishment of a flail-joint, complete ankylosis and immobility or fibrous union with mobility. Reasons for failure are obvious when consideration is given to the complicated nature of the joint and to the nature of, and the extent which may be attained by the disease for which it is most frequently performed, the outcome in tuberculous cases being often death from some other co-existing or subsequently developed tuberculous condition. A flail-joint is an undesirable result, but if the hand can be maintained in a normal position by means of a mechanical support the result is preferable to that of amputation. Likewise, complete ankylosis with immobility at the wrist and of the fingers is undesirable, but from an æsthetic point of view a useful hand is preserved. Fibrous union and mobility of the new joint is the result to be sought for and when this is attained with added free movement of the thumb and fingers, success is unqualified.

The advantages of a successful excision are too apparent to require mention and so it is that the operation ought to be persevered with, considering that the preservation of the hand is at stake and that even a hand much impaired in function is vastly superior to any mechanical device that can be substituted.

Following are some notes of a case of infective necrosis of the right wrist in which excision was successfully performed :

R — W —, aged eleven years, referred by Dr. Taylor, of Inwood, Ont., consulted me on September 19th, 1904. Until ten months previous to consultation the patient was a healthy boy. At that time he had a needle run into the radial side of the palmar surface of his right wrist. The needle was withdrawn, but after two days the wrist became swollen and painful. The swelling soon extended up the forearm and arm, and constitutional symptoms of severe septic poisoning developed and persisted for a period of nearly three weeks, after which gradual subsidence took place. Suppuration occurred at the wrist, and an opening was made to evacuate the pus. Complete relief failed to ensue: the functions of the hand and wrist became much impaired, and during the ten months, at various times and

in various places around the joint, some seven or eight incisions were made for the purpose of evacuating pus.

On examination the patient's general condition was considered good. The right hand was firmly ankylosed in a flexed position at an angle of about  $135^{\circ}$  with the forearm, the fingers being extended and only allowing of a minimum amount of movement. Scars were present all around the joint, and on the palmar surface there was a large sinus out of which the semilunar bone, much necrosed, had made its way on the previous day. The opening, which was about three eighths of an inch in diameter, presented excessive, unhealthy granulations and emerging from it was a purulent discharge. Pronation and supination could not be performed. From the history and the condition on



examination, the diagnosis was made of infective necrosis of the wrist.

Amputation seemed inevitable but as the general condition was good and there were no signs of acute disease, one suggested a stay of six weeks in hospital and decided to spend the first two or three in seeing what could be accomplished by excision, and, if necessary, to amputate later.

On September 20th, I had him admitted to St. Michael's Hospital and performed the operation on the following day, Dr. Hodgins assisting, and Dr. Chambers administering the anæsthetic.

After an attempt to move the thumb and fingers, which was not very successful, and an Esmarch's bandage had been applied, the sinus was cleared out by curetting and disinfected with a solution of alphozone (1 in 1,000). A single metacarpo-dorso-

radial incision of about three inches in length was made, being so planned as to reach the interval between the extensor longus pollicis and the extensor indicis. The extensor tendons were so matted together with their sheaths and the periosteum that it was necessary to make a clean dissection of each and all of them. After this was done and the tendons drawn aside the exposed carpus presented the appearance of a diffusely necrosed mass. No attempt was made to preserve any of the periosteum. The posterior and lateral ligaments of the radio-carpal joint were divided, and after forcible flexion, the anterior one. Separation of the flexor tendons and the pisiform from the anterior surface of the carpus was then carried out, and after the ligaments of the inner four carpo-metacarpal joints were divided and the trapezium had been separated from the general mass, removal of this was effected by bone forceps, the knife severing any hitherto uncut fibrous bands.

On examining the articular surfaces of the radius and ulna they were found to be somewhat necrosed, so that it was necessary to remove about one quarter of an inch of their lower extremities. Their epiphyseal lines were apparently not encroached upon and the bases of the styloid processes were left. The metacarpal bases presented a normal appearance, likewise the trapezium, so that these were allowed to remain. The hook of the unciform had been removed with the mass, and the pisiform, which was diseased, was thoroughly curetted until only a shell of it remained. In this way the attachment to it of the flexor carpi ulnaris and the abductor minimi digiti were not definitely interfered with.

During the whole operation the only muscular attachments that were severed were those of the flexor brevis and opponens minimi digiti to the hook of the unciform, and, undoubtedly, such preservation contributed largely to the success of the operation.

After removal of the Esmarch's bandage considerable bleeding occurred. A few bleeding points were ligated and the cavity was firmly packed with iodoform gauze, the end of the strip being drawn through the sinus. The incision was closed by silk-worm-gut sutures, an aseptic dressing was applied and the part maintained in a proper position by a well padded anterior splint.

On the first day after the operation the dressings were changed on account of saturation with blood. On the second day the gauze packing was removed, the splint was shortened so as to terminate just above the metacarpo-phalangeal joints, and passive movements of the thumb and fingers were commenced. The evening temperature was 101.6°, pulse 112. On the third day the evening temperature was 101.4°, pulse 112; on the fourth day 99.8°, pulse 98; the fifth day 100.4°, pulse

96; and on the sixth day 99.6°, pulse 100. On this latter day the sutures were removed, and there was a small discharge of pus from the centre of the wound. The cavity was syringed through with alphozone solution (1 in 1000), then lightly packed with iodoform gauze, and the dressing was reapplied. On the following day the temperature and pulse were normal. Scarcely any pus was present and the packing was dispensed with. On the ninth day the wound was quite free from pus, and passive movements at the wrist were begun. After this the splint and dressings were readjusted every second day, free movements being carried out at the time, and a gradual improvement being noticed in this respect. After October 16th the patient was allowed out of bed, a sling being used to support the hand and forearm.



At the end of four weeks the sinus on the palmar surface was quite closed, and when six weeks had passed the dorsal wound was also closed, and the wrist had attained sufficient firmness to allow one to dispense with the splint, although a bandage was worn for two weeks longer. On November 3rd he developed a sore throat, and on the following day the temperature rose to 105°, pulse 118. A bacteriological examination revealed the diphtheria bacillus, and he was removed to the Isolation Hospital. Constitutional symptoms rapidly disappeared but he was detained there until December 7th, when he returned to St. Michael's Hospital. Meanwhile movements were encouraged and gentle exercise of the part permitted.



When he was discharged, on December 20th, the bones of the forearm and of the metacarpus were closely approximated; the wrist was firm and of moderate strength. Shortening of the limb segment did not exceed one inch and a quarter. All movements were free, though somewhat limited. He could grasp a pen, and though with difficulty, could write legibly. He had become left-handed since the onset of the disease.

A later report, on February 11th, 1905, to which the patient signed his own name legibly with his right hand, shows that he "can pick up a stick of wood, use his knife and fork, dress and undress himself, button and unbutton his clothes handily, and use the pitch-fork, besides being able to do many other things," and that the hand is in a very satisfactory condition. Photographs taken on February 8th, 1905, indicate this very well.

The interesting points of the above case are the nature, obstinacy and extent of the disease for which excision was performed, the free dissection of the extensor tendons; the preservation of muscular attachments, the sacrifice of periosteum, and the decidedly favorable result of the operation.

To conclude, might not one hope for better results than heretofore in tuberculous disease of the wrist if the operation of excision were undertaken as soon as it becomes evident that improvement is not taking place under conservative treatment?

699 Spadina Ave., Toronto.

## SOME LESSONS TO BE DERIVED FROM THE USE OF THE PELVIMETER DURING THE PUERPERIUM.\*

By FREDERICK FENTON, M.D.

At the close of labor the fundus lies about midway between the pubes and umbilicus; in a few hours it will have risen to, or a little above, the umbilicus. As a rule by the tenth day after delivery it will have fallen to the level of the pubes.

Sufficient attention is not given to the progress of involution.

Not many years ago all cases of diphtheria were isolated for four weeks and then the quarantine was raised, without any definite means being used to determine whether the patient

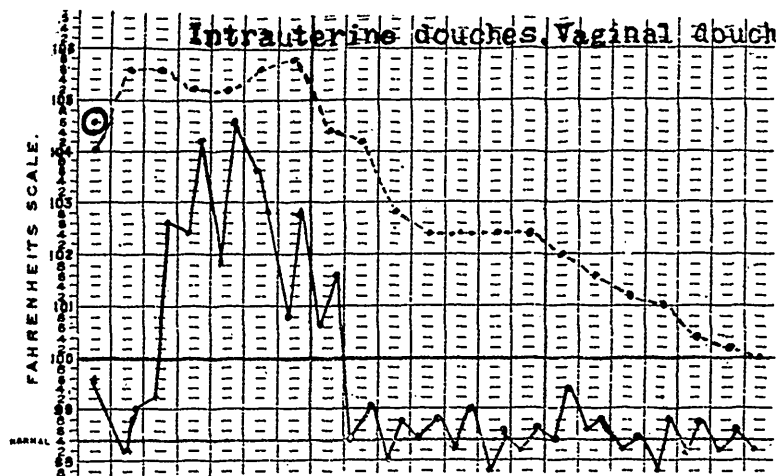


CHART No. 1.

was free from the dreaded infection or not. We can recall instances where that rule proved disastrous to others.

Since the adoption of the bacteriological test as to the time of the raising of quarantine we have all seen patients released from quarantine in a less period than four weeks. Thus the arbitrary rule of a stated period did injustice at times in keeping some unfortunates in seclusion longer than was necessary, and on other occasions allowing those who were still dangerous to mingle with others to their detriment.

In obstetrical cases it has been customary to set a day on which patients shall be allowed out of bed, the particular day,

\* Read before the Toronto Clinical Society, February 1st, 1905.

be it the tenth or the fourteenth, or even longer, depending upon the caprice of the medical attendant, and not upon a definite rule which will vary the time according to the condition and needs of each case. As in diphtheria, the arbitrary rule will do injustice to some at both ends of the line, by allowing one to get up too soon and occasionally retaining another in bed after she might safely be allowed to be about.

The pelvimeter should be to the obstetrician what the thermometer is to the physician. The ordinary length of a case of typhoid is three weeks, but the physician takes the first normal evening temperature as the mile-post from which he calculates certain things. The disappearance of the fundus uteri below

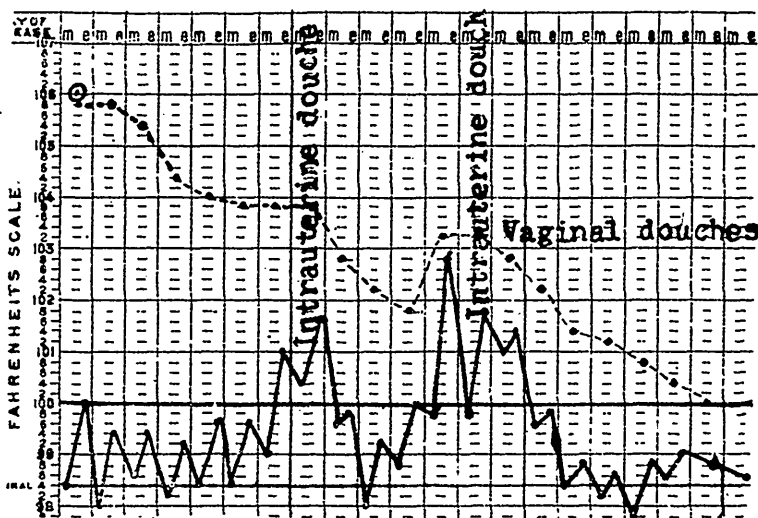


CHART No. 2.

the level of the symphysis should be the obstetrician's mile-post. We may hold varying opinions as to how far we should pass that mile-post, but, nevertheless, that marks the parting of the ways in a definite manner. My own rule is to allow my patients out of bed on the second day after that point has been reached, and not till then, be it the tenth or the twentieth day. But it is not only in normal cases that the pelvimeter is of service to us.

Of the various causes of delayed involution the most common and most serious is *sepsis of the endometrium*. Puerperal sepsis is always accompanied by a rise of temperature, and the first thought that comes to us when a puerperal woman has fever is the possibility of infection. In connection with cases

of this sort the pelvimeter is of the greatest service. If there be *sepsis of the endometrium* the fundus will first cease to fall, and if speedy relief be not afforded it will begin to rise higher than it had been. If, on the other hand, the fundus continues to fall, with rising temperature, one can make his mind easy as to the condition of the endometrium at any rate, and search elsewhere for the *materies morbi*. Another, and I believe, a very frequent cause of delayed involution is cervical laceration. The failure of the fundus to fall for three or four days, associated with a normal pulse and temperature, should lead one to investigate the condition of the cervix, when in most of such instances it will be found lacerated. It then rests with the

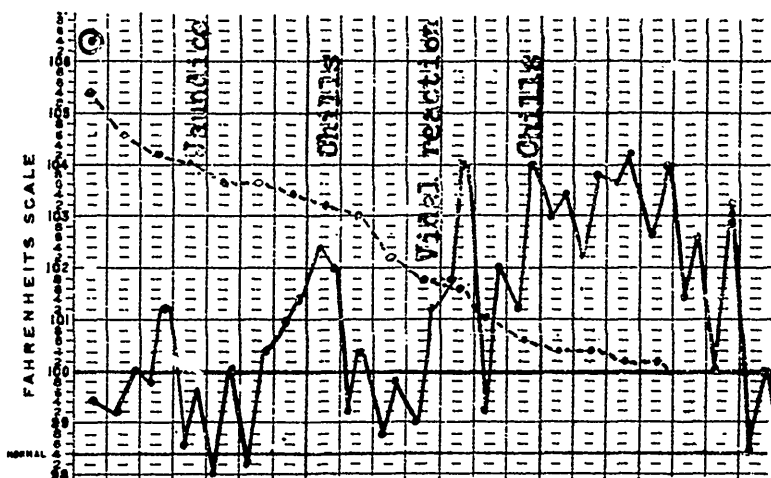


CHART No. 3.

medical attendant to decide whether he will repair then or wait till a later date. Personally I have been very much pleased with the results I have obtained from the repair of cervical lacerations about five or six days or even as late as ten days after labor.

I have here five charts which I have selected to illustrate my remarks. Appended to each is a paper giving the salient points of the case. The first is that of a septic case, which demonstrates the rise of fundus with rise in temperature and its subsequent fall when the temperature fell. The second chart demonstrates the failure of fundus to fall during the early or incubative stage of sepsis, if I may call it such, the rapid dropping following a single intrauterine douche, a subsequent rise with a relapse of sepsis, and the final fall, with the improvement consequent upon the continuance of intrauterine

and vaginal disinfection. The third chart is one which illustrates the steady progress of involution, in spite of the fact that the temperature was progressively rising, by which I was led not to interfere with the uterus, but to await developments. The case proved to be one of typhoid fever. The fourth shows the satisfactory progress of involution after the repair of a

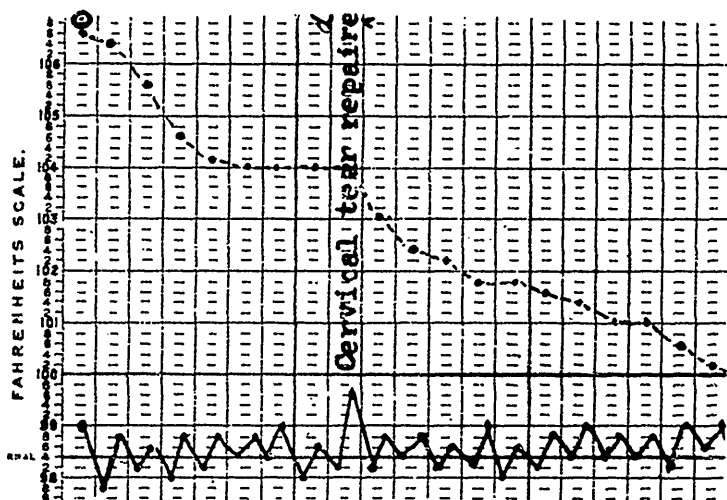


CHART No. 4.

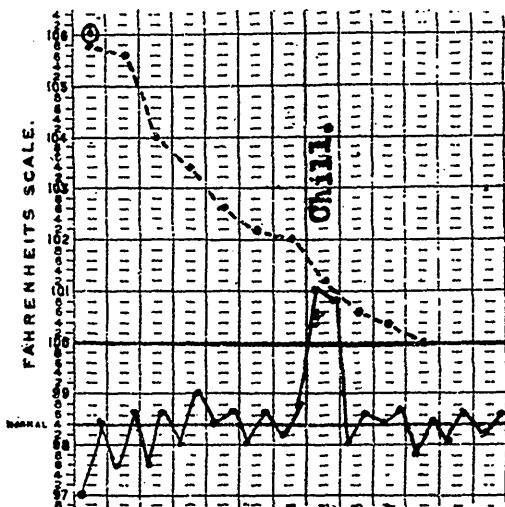


CHART No. 5.

double cervical tear on the ninth day. The last one illustrates the non-interference with involution by the occurrence of a severe chill on the eighth day, which was followed by a temperature of  $101^{\circ}$  and a pulse of 144 to the minute. No interference with uterus was undertaken, and subsequent history was uneventful. A painful breast was supported, an anodyne application applied, and a smart purge was given.

These illustrations might be multiplied to a very great extent, and much more might be said on the subject, but I am anxious to comply with the request of our President in such matters, and will be well repaid if I am successful in directing the attention to this matter of even a few who have heretofore given it little or no consideration.

---

## INVOLUTION AND SUBINVOLUTION OF THE UTERUS.

BY ADAM H. WRIGHT, M.D.

---

Dr. Fenton's paper is both interesting and valuable, and I quite agree with him that sufficient attention is not given to the progress of uterine involution after labor, but I think he was unfortunate in his choice of a title. "The use of the pelvimeter during the puerperium" is, to some extent, misleading, as there is no special virtue in the pelvimeter for the measurer as he describes. The pelvimeter, as first invented by Baudelocque, consisted of a pair of calipers or compasses with legs sufficiently bent to measure the external conjugate diameter of the pelvis, or "Baudelocque's diameter." It, or one of its modifications, was soon used for all pelvic measurements. It is not required nor generally used, however, for measuring the height of the uterus above the symphysis. It has become the custom (and I do not object) to use it in the Burnside; but they used a flat 12-inch rule in the Queen Charlotte Hospital when I visited it four years ago, and I use, or have the nurse use, an ordinary tape measure in private practice, and find it more convenient than the pelvimeter.

I have paid considerable attention to the subject of involution and subinvolution of the puerperal uterus for many years, but especially since Herbert Spencer, of London, wrote on the subject about eight years ago, and after visiting Queen Charlotte Lying-in-Hospital in 1901, I introduced into the Toronto Burnside the daily record of the "involution line" in the ordinary chart. In doing this I copied largely the Queen

Charlotte's method, but modified the chart by placing on the right side a double column of figures in inches and centimeters.

I have found that the fundus descends more rapidly in the primipara than in the multipara, the difference being on an average one or two days in favor of the former. It reaches the top of the symphysis on the eighth day in 70 per cent. of primipara and only about 40 per cent. of multipara. It reaches the symphysis before or on the tenth day in the majority of multipara. In both primiparæ and multiparæ the time may vary from five to twelve days without any apparent abnormality.

My chief aim in referring to the subject is to sound a note of warning against some of Dr. Fenton's conclusions. In the first place, the involution line does not give us the same sort of precise evidence as to septic infection which bacteriological examination furnishes as to diphtheria. Ascent of the fundus does not always mean sepsis, nor does descent of the fundus always indicate the absence of sepsis. I shall not now give my reasons for these statements, my chief desire being to support Dr. Fenton in most of his contentions.

In considering a condition like puerperal infection, with such varying and numerous signs and symptoms, it is not well to pay too much attention to any one sign. Subinvolution is only one of many symptoms, and it is always important to study the patient in the broadest possible way.

I think that Dr. Fenton is scarcely fair to his confreres when he says that obstetricians generally "set a day on which patients shall be allowed out of bed, the particular day, be it the tenth or fourteenth, depending on the caprice of the medical attendant," without regard "to the condition and needs of each case." I think that most physicians whom I know consider carefully the condition of each puerperal patient. At the same time I quite agree that subinvolution of the uterus should receive serious consideration when examining and deciding as to the general condition.

I presume that in each of the charts the first day's marking indicates the highest position of the fundus on that day. In connection with the first chart I think that in such a case one cannot be certain that there was septic infection without bacteriological examination. Apart from that, however, I desire to point out one important fact. When the fundus is found to be two or more centimeters higher on the second day without other symptoms, excepting pain or discomfort in lower abdomen, the cause is nearly always a distended bladder, and catheterization is indicated. But the nurse may say: "No, doctor, she has voided her urine regularly." At the same time the nurse will be surprised when she finds that the bladder contains more

than a quart of urine. One of the most valuable lessons I have learned from the involution line is the comparative frequency of retention of urine with overflow shortly after labor. I fear that this condition is often overlooked, and that as a consequence the puerpera frequently suffers unnecessary pain for days.

The second chart is interesting, but suggests certain questions as to intrauterine treatment which I have not now time to discuss, but I think that subinvolution alone should not, as a matter of routine, lead us to "interfere with the uterus." The other charts are interesting and instructive. I think the fourth is especially noteworthy, and I am glad Dr. Fenton has shown that cervical tear is an occasional cause of sub-involution, and performs immediate operation. I think he is quite right in both respects, and that such operation is generally quite satisfactory as to results. I presume that he refers especially to recent tears. It is likely, however, that he will agree with me in the statement that old tears are also occasional causes of sub-involution, and may be satisfactorily repaired during the puerperium.



## REPORT OF A CASE OF OBSTRUCTION OF MAIN BRONCHUS BY A SHOE-BUTTON.\*

By W. B. THISTLE, M.D., L.R.C.P. (LOND.),  
Associate Professor of Clinical Medicine, University of Toronto.

The following report of a case of obstruction of the main bronchus on the left side by a foreign body, which proved to be a shoe button, seemed to me to be of sufficient interest to occupy the time of the society. The chief interest in the case lies in the remarkable and perplexing physical signs which the obstruction produced.

The patient, a little girl of about eight years, was admitted to the Children's Hospital under my care with what appeared to be a left basic pneumonia of the ordinary type. There was the history of acute invasion, with chill, and no history of accident of any kind. The temperature high, with increased respiration and pulse rate; very little cough and no expectoration. On examination of the chest, however, I at once came upon a condition somewhat unusual and difficult to explain—namely, that while there was the usual dullness over the lower part of the chest, with hyper-resonance in the chest above, yet there was complete absence of breath sounds over both the dull area below and the hyper-resonant area above. One frequently finds absence of breath sounds over the consolidated area in pneumonia: the vesicular murmur being absent because of the filling of the vesicles, and the bronchial sounds absent, because, we say, of the filling of the bronchus by the exudate. That this explanation of the quiet area in pneumonia is the correct one this case amply proves. How to account for the absence of breath sounds in the hyper-resonant area above the line of dullness was, however, more difficult. Some obstruction, which permitted air to enter, but did not allow of movement of air, seemed necessary. Examination over the dull area showed a few crackling rales. The child passed the next few days fairly well, about as one would expect in a child with basic pneumonia. After several days and no crisis or abatement of the symptoms, I examined very carefully for fluid in the pleura; especially, as after a few weeks the temperature became of the distinctly hectic type, and the child began to show the effects of prolonged fever, etc. She was becoming thin and pale with frequent sweats. The symptoms, with the exception of one important one, were exactly what one might expect in an empyema. Dullness, absence of breath sounds, diminished vocal fremitus and vocal resonance. The skodaic resonance above the line of

\*Read at Clinical Society.

dullness still persisted, and there was still complete absence of breath sounds over that area. Careful examination showed absolutely no displacement of the heart. Because of the absence of this almost essential sign, together with the presence of occasional fine rales, I decided against fluid in the pleura. However, after another week, the same hectic fever, wasting and sweats continuing, I decided to test the matter by aspiration, in spite of the fact that the heart was in its normal position. The needle brought nothing. Again, after waiting perhaps a week, the irregular fever and sweats continuing, I used a larger needle with the same result. Later, the signs of the pus becoming so clear, although there was still no displacement of the heart, I felt that the case was becoming desperate, and acting on the idea that there might be an empyema, and for some reason no heart displacement, I had my colleague, Dr. Primrose, open into the chest. The pleura was absolutely free. The condition described still continuing in the lung, namely, dullness in the lower half, hyper-resonance in the upper part, and absence of breath sounds of any kind over the entire lung, I came to the conclusion that we had to deal with a pneumonic condition, probably tuberculous, and that probably an enlarged bronchial gland permitted air to enter the upper part, but prevented any considerable movement of air. Because of the absence of expectoration, an examination with reference to tubercle could not be made. The patient continued to have the daily rise in temperature with sweats and was much emaciated. About two months from the time she entered she had an unusually severe fit of coughing and brought up a large quantity of yellow pus, and with the first mouthful, an ordinary shoe-button somewhat corroded. At once there was a great change in the physical signs. Over the dull area at the base there was distinct bronchial breathing, and the breath sounds were loud and distinct over the resonant area in the upper half of the chest. From that time recovery was very rapid and in a short time the child was discharged well. The hectic temperature was explained, the purulent broncho-pneumonia producing symptoms quite like those due to empyema. The button, together with the purulent collection in the lower bronchi, prevented bronchial breathing being heard over the pneumonic area, but the obstruction permitted entrance of air to a slight extent in the upper part of the chest, filtering it, as it were, past the button; the movement of air, however, not being sufficient to produce the vesicular murmur. The immediate presence of bronchial breathing over the dull area upon removal of the button, proves the correctness of the explanation usually given for the absence of bronchial breathing over the consolidated lung, namely, that the bronchus is obstructed by exudate.

## Clinical Note.

---

### GUN-SHOT WOUND AND RESECTION OF KNEE-BONES NAILED TOGETHER.

---

By EVERETT S. HICKS, M.D.,  
Port Dover Sanitorium.

---

J. M., aged 16.—On April 1st, 1904, the patient, while holding the barrel, pushed a shotgun into a brush heap. It went off, and at such close range completely riddled the right knee. The knee-cap was blown away and the joint laid completely open. A goodly amount of the surrounding skin was gone and the edges of the wound were lined by the synovial fringes. With loose bone and shot in the joint, and a plentiful supply of cloth and earth in the wound, it did not present a very favorable outlook. Under chloroform the leg was cleansed with green soap and antiseptics, and all except the immediate field of operation was enveloped in aseptic bandages. A resection was then done, the trochanters being removed high up, and a veneer taken off the tibia. In order to keep the bony surfaces together and to allow free handling of the limb, two three-inch wire nails were driven through the bones with a common hammer, all previously sterilized. They made the limb perfectly rigid. The skin around the large raw surface was drawn as closely as possible with mattress (continuous) sutures. The wound required dressing next day on account of oozing, but thereafter followed a perfectly normal course, no pus being present at any time. The first nail was removed in six weeks, and the other in nine weeks from the date of injury. They were tarnished but not rusted. On June 26th a plaster coat was applied so as to allow patient up on crutches. This was removed in six weeks, and the leg was strong and firm with very little shortening.

In such cases, when either are indicated, nails would appear to be as useful as the bone drills, since they give as good results and are easier of application.

## Selected Article.

### FILARIASIS IN MAN CURED BY REMOVAL OF THE ADULT WORMS IN AN OPERATION FOR LYMPH SCROTUM.\*

By A. PRIMROSE, M.B., C.M. EDIN., M.R.C.S. ENG.,

Professor of Anatomy and Associate Professor of Clinical Surgery in the University of Toronto.

Filariasis is very rarely met with in Canada; in fact, I am unable to find the record of a single instance in which *filaria sanguinis hominis* has been reported. In the case at present under consideration the patient had for many years been a resident at Barbadoes, and had contracted the disease whilst living there.

The pathogenesis of filariasis is well known, and we may sum up the historical record of our knowledge of *filaria* as follows:

The embryo *filaria* were first discovered in the fluid of chylous hydrocele by Demarquay in 1863. Lewis showed that the embryos had their normal habitat in the blood of a man in 1872. Bancroft found an adult worm in an abscess in a lymphatic gland in the arm in 1876, and later four others in a hydrocele of the spermatic cord. Manson,<sup>1</sup> who studied the disease in China, was the first to observe a periodicity in the occurrence of the embryos in the peripheral blood; his paper was read before the Pathological Society of London in 1881. As early as 1877 he had suspected the mosquito (<sup>1</sup>, p. 291) as playing the part of the intermediary host, and of transmitting the infection to man. In 1879 he demonstrated the life history of the parasite in the body of the mosquito *Culex ciliaris*. Low, in 1900, observed and described the *filaria* lying in the proboscis of the mosquito. In 1901, Annett, Dutton, and Elliott,<sup>2</sup> whilst studying the disease on the West Coast of Africa, determined still more accurately the manner in which the mosquito parted with the parasite; they found that the *filaria* passed into the labium of the mosquito, and made its way from thence into the blood of man by rupture of a thin chitinous membrane on the upper surface of the labium. It would thus appear that infection is communicated to man by the bite of the mosquito. There is another possibility, though it is considered a remote one, namely, that drinking water may be contaminated by the dead bodies of mosquitos containing *filaria*, and thus infection of man may occur.

The victim of filarial infection does not necessarily suffer any inconvenience from the presence of the worm and the embryos; in fact it would appear to be the exception for pathological

\*Read before the Canadian Medical Association at Montreal.

lesions to manifest themselves in persons thus infected. Annett, Dutton and Elliott<sup>2</sup> found in some localities of the West Coast of Africa as many as 50 per cent. of the inhabitants infected; it was extremely rare to find these individuals suffering any inconvenience whatever; seldom was any diseased condition manifested. Nevertheless filaria are capable of producing disease; this may be brought about by the adult worms blocking the lymphatics and thus interfering with the circulation of the lymph. Occasionally, too, parent worms may and in process of disintegration may produce local inflammatory trouble. Then, again, the embryo forms are, under certain conditions, responsible for disease. The normal embryonic filaria are apparently incapable of producing any pathological lesion whatever; they circulate freely in the blood and cause no disturbance of function, but immature ova have been shown by Manson to be a cause of trouble. Under certain conditions, probably in consequence of injury to the parent worm, immature ova are discharged in large numbers into the blood, and as a result pathological conditions subsequently manifest themselves. This is due to the fact that the immature ova cannot move as smoothly in the circulation; they are apt more particularly to block the finer lymph vessels, and then trouble ensues.

The filarial diseases which may thus be produced have been enumerated by Manson<sup>3</sup> as follows: Abscess, lymphangitis, varicose groin glands, varicose axillary glands, lymph scrotum, cutaneous and deep lymphatic varix, orchitis, chyluria, elephantiasis of the leg, scrotum, vulva, arm, mamma, and elsewhere, chylous dropsy of the tunica vaginalis, chylous ascites, chylous diarrhea, and probably other forms of disease depending on obstruction or varicosity of the lymphatics or on the death of the parent filaria.

The patient whose history I now record suffered from elephantoid fever, lymph scrotum, lymphadenitis, and abscess with varicose groin glands. The details of the case are as follows:

J. W. W., aged 47 years, a native of Barbadoes, West Indies, came under my care in the Toronto General Hospital on December 18th, 1900, in order to get advice concerning a swelling of the scrotum.

*History.*—He had lived in Barbadoes all his life with the exception of six or eight short trips which he had made to Canada and Europe. He gave the following history:

In 1881, when he was 28 years of age, he suffered from what he believed to be hydrocele, for the treatment of which both sides of the scrotum were tapped and fluid drawn off, after which iodine was injected. This apparently effected a cure. With the exception of the hydrocele he enjoyed perfect health

and never had a serious illness of any kind until 1884, when on one occasion he became suddenly ill; an initial chill was followed by high fever and drowsiness. The chill was not repeated, but he was in bed for a week, the fever continuing, and there developed a painful swelling of the right leg below the knee; this gradually subsided and he fully recovered. He remained well for two years, when a similar attack occurred with exactly the same symptoms, but in addition, coincident with the occurrence of the chill, the glands in the right groin became swollen and tender. In subsequent attacks pain in the groin glands formed the first symptom and warned him of the approach of trouble. These attacks occurred at long intervals for the next few years; an interval of a year or eighteen months would pass without one. During an attack in 1891 an abscess developed in the calf of the right leg; this was opened and subsequently healed up without much trouble. At this date the scrotum first began to be affected and to swell up during the attack, and this became a feature of all subsequent seizures. At first the scrotal swelling would go down after the attack, but soon permanent thickening resulted. From October, 1899, until March, 1900, he had a series of successive attacks in Barbadoes; they were more severe than he had previously had. In all, seven attacks occurred during the six months mentioned. In one of them he had a severe rigor which lasted half an hour.

The patient never suffered an attack whilst in a cold climate, and hence during his visits to Northern Europe and Canada he has been free from the trouble altogether. A curious fact is that, in spite of the series of attacks such as I have described, filariasis had not been suspected, and he had never had his blood examined until he came under my care in Toronto. The history, too, would indicate that he had been a victim of the infection for sixteen, possibly for twenty years.

*Condition on Admission.*—The whole scrotum was greatly thickened. There was sufficient enlargement to form a heavy, somewhat flabby mass about three times the normal size. He supported the scrotum in a flannel bag when he walked about. The enlargement diminished slightly after he had been lying down for some time, but there always remained a considerable amount of permanent thickening. The tissues of the scrotum had a thick, indurated, leathery feel on manipulation, and there was some additional enlargement in the region of each testicle. On the right side there was a nodule about the size of an almond apparently in the epididymis. The condition about the testicles might have been due to the hydrocele from which the patient had suffered in 1881.

*Examination of Blood.*—On my first examination of the

patient I suspected that I had to deal with a case of lymph scrotum, probably of filarial origin. I stated my suspicions to Dr. J. H. Elliott, who happened to be in Toronto at the time. Dr. Elliott had just returned from the West Coast of Africa, where, whilst a member of the staff of the Malarial Expedition to Nigeria from the Liverpool School of Tropical Medicine, he had studied filariasis in man and in birds. He kindly undertook the examination of the blood, and subsequently succeeded in isolating the parent worm from the tissues which I excised at the operation. On the night of January 4th, 1901, Dr. Elliott drew some blood from the finger tip, and made three cover-glass preparations. In each of these he found the embryo filaria in large numbers. Thus under one cover-slip he counted twenty embryos. They were of a typical form, and were readily recognized as filaria sanguinis hominis nocturna. In all instances the embryo was seen to possess a distinct case, such as is characteristic of the nocturna variety of filaria.

*Operation.*—I operated on January 5th, 1901. Chloroform was administered, and the greater part of the indurated scrotum was removed by an elliptical incision, the long axis of the ellipse running from before backwards, beginning in front at the base of the penis, and ending behind at the most posterior part of the scrotum in the middle line. Having excised this portion of indurated skin, there were left two lateral flaps of scrotal tissue just sufficient to cover the testicles. The operation was simple and presented no difficulties whatever. There was very little bleeding, and no ligatures were required. The edges of the wound were brought together by interrupted silk-worm-gut and continuous horse-hair sutures. An antiseptic dressing was applied. The wound healed kindly by first intention, and the stitches were removed on the eighth day.

*Examination of Specimen.*—At the time of operation Dr. Elliott took charge of the scrotal tissue at the moment I removed it. He placed it in normal salt solution, and made a search for the parent filaria, teasing the tissue with a couple of needles. A number of fragments, apparently of an adult filaria, were floated off, but at first no complete worm. Then a small cyst-like body was observed on the surface; on opening which, a drop of serous fluid escaped, while in it was found an adult filaria. On placing this in a dish of salt solution its movements became very active, coiling and uncoiling itself with extreme rapidity; it looked like a piece of animated white thread, about six cm. long. If momentarily its movements ceased it would seem to be in an inextricable coil. Further examination of the tissue failed to reveal any other adult worms. In the salt solution the adult filaria remained alive for some hours.

*Observation of Periodicity.*—In order to determine the periodicity of the appearance of the embryos in the peripheral blood a careful count was made every three hours, from noon on January 28th to noon of the next day. Dr. Coutts, who was then assistant in the Pathological Department, made the counts. A glass pipette was used, and each drop of blood for examination was carefully measured so as to obtain the same quantity of blood under each cover slip; the embryos under each were then counted. Four cover-slips were prepared for each count, and the number of embryos in each cubic centimetre of the blood was calculated from the results obtained.

Date.	Time.	Embryos per c.cm. of the Blood.
January 28th.....	3.10 p.m.....	126
January 28th.....	6.10 p.m.....	840
January 28th.....	9.10 p.m.....	1,175
January 29th.....	12.10 a.m.....	1,680
January 29th.....	3.10 a.m.....	1,540
January 29th.....	6.10 a.m.....	1,764
January 29th.....	9.10 a.m.....	273
January 29th.....	12.10 p.m.....	0

*After-History.*—On February 19th, forty-six days after the operation, the patient suffered an attack of elephantoid fever. This was the first occasion on which he had experienced an attack of this nature in a cold climate. Immediately after lunch, in the middle of the day, he was seized with a chilly sensation, the skin became hot and dry, and he realized that he had what previously in the Barbadoes he had been in the habit of calling an attack of "ague." When I saw him at 5 p.m. his temperature was 104.4° F., respirations 32 per minute, and pulse 120. A tender swelling about the size of a hen's egg existed in the posterior triangle at the root of the neck on the right side. The superficial tissues over this region were congested and edematous. He tells me that in the early afternoon when the attack first manifested itself he suffered severe pains in the back and limbs, with characteristic stretching and yawning, a feeling of lassitude and drowsiness such as he had always experienced in the tropics when an attack of this kind supervened. The local inflammatory condition subsided but recurred, and ten days after the onset of the attack the edema and tenderness made me suspect pus, and I incised the cervical swelling. I found a mass of sloughy-looking material, composed of greyish, edematous, broken-down glandular tissue. There was no pus formation. Careful search was made for parent worms, but none were found. The wound slowly healed

On March 13th, at midnight, and at 7 o'clock the next morning, a sample of blood was taken for the purpose of demonstrating the embryos to my class. I was surprised to learn that no embryos were to be found, and none could be discovered on



subsequent occasions, although many attempts were made to secure a specimen. The following week Dr. Coutts made a systematic search for the embryos, proceeding in the same manner as he had done when making the counts for periodicity in January. The same quantities of blood drawn at similar hours were submitted to careful search. He succeeded in finding a single embryo in the blood drawn at 9.10 p.m. All the other samples were free from embryos; they had entirely disappeared. Subsequent to this, samples of blood taken at irregular intervals at night failed to discover any embryos.

It would therefore appear that not only had the patient got rid of his lymph scrotum, but the operation had re-sulted in freeing him of his filaria. The only possible explanation appeared to be that the filaria which Dr. Elliott found in the excised tissue were the parent worms, which were responsible for the production of the embryos in the blood, and that on their removal the embryos ceased to be produced, whilst those already in existence gradually disappeared, as, of course, they never come to maturity in the human blood, and must perish unless they are carried to an intermediate host.

My patient subsequently returned to the West Indies, where he at once adopted precautions to prevent reinfection, from the very first night sleeping under netting in order to keep the mosquitoes from him. He writes to me under date July 25th, 1901, to the effect that he had had his blood examined. He was fortunate enough to have the examination made (at the request of Dr. Phillips, the medical attendant), by Dr. G. C. Low, of the London School of Tropical Medicine, who happened to be in the locality at the time. Dr. Low pronounced him still free from filaria embryos. This examination was made six and a-half months after my operation on the scrotum when the parent worms were isolated. One may therefore conclude that a permanent cure had been effected by the removal of the parent worms from the scrotum.

#### DR. J. H. ELLIOTT'S DESCRIPTION OF THE ADULT WORMS.

Dr. Elliott was good enough to make a careful study of the adult worms found. He reports as follows: Microscopic examination of the fragments found showed them to be apparently from a fully-developed female. The one perfect filaria proves on examination to be a female not fully mature. The length is 55 mm., and width 0.19 mm. (When mature the length of the filaria bancrofti varies from 88 to 155 mm. and the width 0.6 to 0.7 mm.) Both ends are tapered. The head end is slightly bulbous, measuring 0.052 mm. at its greatest diameter. The neck at its narrowest point has a diameter of 0.045 mm.

The tail end tapers until it reaches a diameter of 0.044 mm., and then is abruptly rounded. The cuticle shows transverse striations, especially near the ends. The buccal orifice is centrally situated at the anterior end. The first part of the alimentary canal is thick-walled and muscular, but throughout the greater part of its length the walls are thin. The posterior opening is lateral, the anal orifice being marked by a slight depression 0.028 mm. from the end. What appears to be the nerve collar crosses the oesophagus 0.195 mm. from the anterior

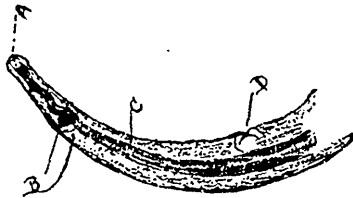


Fig. 1.—Anterior end  $\times 60$ . A. Oral aperture. B. Nerve ring. C. Oesophagus. D. Vulva.

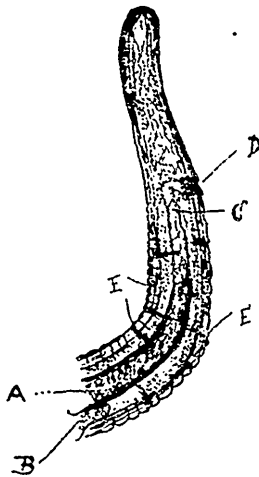


Fig. 2.—Posterior end  $\times 90$ . A. Alimentary canal. B. Posterior horn. C. Uterus. C. Cloaca. D. Anal orifice. E. Cuticular striations.

end. The vaginal orifice is situated at a distance of 0.67 mm. from the anterior end, being marked by a depression surrounded by a slightly-raised papilla. The width of the worm at the vulva is 0.125 mm. The vagina, which possesses thick muscular walls, extends backwards 3.45 mm., where it receives the two horns of the uterus. Only a small number of ova are present in the vagina, but the uterine horns are completely packed with them. The uterine walls are thin. The two horns make

several turns about one another and the gut as they pass backwards to the posterior end. The gut has a constant diameter of 0.0347 mm. The rest of the celomic cavity is taken up by the distended uterus. The uterus terminates blindly about 1.2. mm. from the tail.

Cobb's formula,<sup>4</sup> which was used extensively by the malarial expedition to Nigeria (<sup>2</sup>, p. 23), was devised so as to indicate the measurements of different parts of nematode worms as

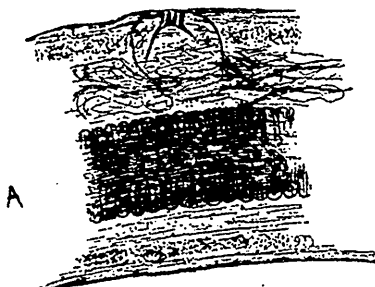
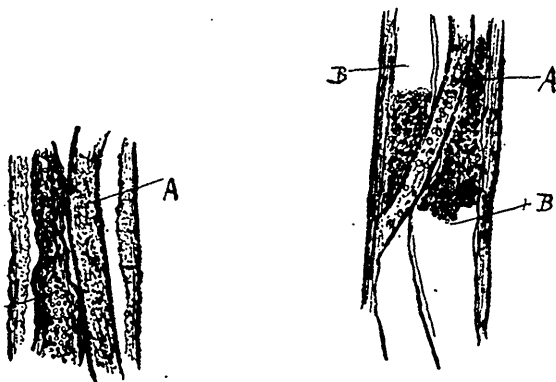


Fig. 3.—Region of vulva  $\times 270$ . A. Alimentary canal.



-A point 3.48 mm. from head Fig. 5.—Near middle of the worm  $\times 90$ . A. Alimentary canal.  $\times 90$ . A. Alimentary canal. B. The iscular walls of vagina. B. two horns of uterus.

percentages of the whole length of the body. Reduced to Cobb's formula the size of the parent worm in this case was as follows:

-0.36	3.647	1.22	99.5
-0.145	0.327?	0.251	0.147

Measurements for specimens of *filaria bancrofti* do not appear to have been previous published. They could not be obtained for the work on *Filariasis* issued by the Malaria Expedition to Nigeria (<sup>2</sup>, p. 44).

## COMMENTARY.

The attack of lymphadenitis in the neck with the characteristic symptoms of the elephantoid fever, which came on forty-six days after my operation, might be accounted for by supposing that immature ova had been discharged into the circulation by the parent worms during the manipulations at the time of operation. The immature ova as has already been pointed out, are considered by Manson to be a frequent cause of trouble in the individuals suffering from filariasis. In my case, it might be presumed, they brought about a lymph stasis in the cervical region, with the sequel of events described. This was the only attack of elephantoid fever suffered by my patient in a cold climate, and I think the observation is one of considerable interest. With this single exception he enjoyed complete immunity from such attacks whilst visiting Canada and Northern Europe; and it must be admitted that the single instance referred to occurred under very exceptional circumstances, directly traceable, no doubt, to the operation. The general observation might therefore be made, if we conclude as much from the evidence here presented, that an individual, the subject of filarial infection, gets complete relief from attacks of elephantoid fever when he migrates from the tropics and takes up his abode in a cold climate. Immunity from such attacks was enjoyed, although, as examination showed, the embryos continued to circulate in his blood. The truth of this fact was not deduced from a single experience, but was proved repeatedly by my patient, who on many occasions sought and found relief from the frequent attacks which he suffered in the tropics by visiting a cold climate.

Many interesting observations have been made regarding the occurrence of the embryos in the peripheral blood. Manson<sup>5</sup> has determined by observations conducted *post mortem* on a man who committed suicide, and who had been a victim of filarial infection, that when the embryos are absent from the peripheral circulation they find shelter in the larger blood vessels, particularly the arteries, the majority being found in the vessels of the lung. Manson calls attention to the analogy which exists between filarial periodicity and that of the malarial parasite, "the two parasites of man subserved by the mosquito." In 1882 Stephen Mackenzie<sup>6</sup> reported a case of hematochyluria of filarial origin in the person of a private in the Royal Artillery who had come from India, and was admitted to the London Hospital. Mackenzie reversed the patient's usual hours of movement and rest, his meal times being correspondingly altered. The effect was a complete inversion of the filarial migration. The embryos were now found in large numbers

during the daytime, and were absent during the night. On resuming his usual habits the nocturnal periodicity returned as before. No reasonable explanation of this is forthcoming.

In tropical countries it is not uncommon to find a type of filarial infection in which the embryos are only found in the peripheral blood in the daytime in individuals of ordinary habits of sleep, etc. In the case of this parasite known as the *filaria diurna* the periodicity is therefore the reverse of that described in my case. No marked pathological lesions have been encountered in connection with this parasite, and this circumstance, as Annett, Dutton, and Elliott (<sup>2</sup>, p. 53) point out, accounts for the fact that their geographical distribution has not been made out with accuracy. No difference can be detected in the embryonic form, between *filaria nocturna* and *filaria diurna*, and according to Annett, Dutton, and Elliott (<sup>2</sup>, p. 92), "the weight of evidence is on the side of identity" of these two forms. If they are identical, then, for some unknown reason, there must be a reversal of the periodicity comparable to that established experimentally by Mackenzie. The parent form of *filaria diurna* has not been discovered. Manson suggested the possibility of *filaria loa* being the worm in question. This worm (*filaria loa*) is from 16 to 70 mm. in length (<sup>2</sup> p. 50); it inhabits the connective tissues, and has frequently been observed moving about under the conjunctiva or under the thin skin of the eyelids. It moves about in such localities with marvellous rapidity. Two specimens of this worm have been obtained to my knowledge in Toronto, in both cases removed from the eyelids of individuals who had returned to Canada from the tropics. One case was reported by Dr. Frederick Fenton; the other occurred in the practice of Dr. F. N. G. Starr. Unfortunately in neither case was the blood examined for embryos, as the suggestion regarding *filaria diurna* and its possible relationship to *filaria loa* had not been made, and there was no reason to suspect the presence of parasites in the blood.

There are some forms of filarial infection in which no periodicity whatever occurs. For example, the filarial perstans, which is very common on the West Coast of Africa, embryos in small numbers are found in the peripheral blood at all hours of the day and night. The embryonic form of *filaria perstans* is very different from *filaria diurna* or *filaria nocturna*. It is much smaller than either of these, and differs markedly from them also by possessing no sheath.

Occasionally an individual may be the victim of filarial infection, and may present evidence of extensive lesions produced thereby without at any time showing filarial embryos in the peripheral circulation. This can only be explained on the

hypothesis that the lymphatic channel has been so blocked that the embryos are unable to find their way to the blood stream. Thus Strube, in the *Deutsche medicinische Wochenschrift*<sup>9</sup> describes five such cases from Natal and the Transvaal, where filarial embryos were found in the urine, but none were present in the blood, which was carefully examined during the day and night. Lothrop and Pratt<sup>10</sup> (p. 284) cite this paper in support of the statement that embryo filaria had been found in the blood of the negroes of the Transvaal. As a fact, however, the blood was free from embryos in Strube's cases.

Manson<sup>8</sup> asserts his belief that before embryos can be found in the blood by ordinary microscopic examination large numbers of parent worms must be present in the lymphatics. Annett, Dutton, and Elliot (<sup>2</sup>, p. 67) were led to believe from their investigations that Manson's conclusions were not justifiable. The case which I now place on record would seem to have a direct bearing on the question, and would go to show that very few parent worms may be responsible for a large number of embryos in the peripheral circulation. Lothrop and Pratt,<sup>10</sup> of Boston, report two cases of filariasis observed in that city, in one of which operation was performed for lymphatic varices and chylous hydrocele, with the removal of adult worms. In all nine worms were removed, of which two were males. There was, however, in their case no subsequent disappearance of the embryos from the blood; they were found present six months after operation. In their paper, which was published in 1900, they had collected 11 cases from the literature, in which adult filaria bancrofti have been found, and, as far as they were able to ascertain, the adult worms had never before been found in the United States. I can find no case on record of a cure being effected by removal of the adult worms such as I now report. Manson (<sup>3</sup>, p. 505) states that the disappearance of filarial embryos from the blood which sometimes occurs in cases of lymphatic varix of long standing is, doubtless, due to the death of the parent parasites, but there is no suggestion that such a result may be brought about by operation.

The interference with the lymph circulation is often very great in these cases, and those who have had much experience in operating state that there is danger in attempting to excise affected tissues, lest in so doing the anastomotic circulation of the lymph may be interfered with to such an extent that matters may be made worse rather than better. Godlee<sup>11</sup> has quite recently, on the suggestion of Manson, operated with the view of producing an anastomosis between one of the dilated lymphatic vessels and a tributary of the internal saphenous vein. Subsequently, another lymphatic had been introduced into the spermatic vein. The result had been extremely successful.

Apart from the presence of embryos the blood has exhibited other peculiarities in infected individuals. Gulland<sup>12</sup> has shown that there is a distinct osinophilia observable when the embryos are present in the peripheral circulation. This, Gulland observes, brings filariasis into line with other parasitic infections—for example, ascaris, oxyuris, ankylostoma, tenia, and trichina, in all of which osinophilia exists. This, it is asserted, goes to show that the osinophiles are concerned in protecting the body from the toxins of the parasites. Coles<sup>13</sup> has confirmed Gulland's observations and has found osinophilia in bilharzia disease also. Calvert<sup>14</sup> made somewhat similar observations among Filipino prisoners at Manilla, but he was of opinion that the osinophilia was only characteristic of the early stages of filariasis, and that as the disease progressed the leucocytosis and increase in osinophiles gradually decreased.

## REFERENCES.

1. Manson, Lymph Scrotum, showing *Filaria in Situ*, *Trans. Path. Soc. Lond.*, 1881, vol. xxxii, p. 285.
2. Report of the Malaria Expedition to Nigeria of the Liverpool School of Tropical Medicine, by Annett, Dutton, and Elliott. Part 2, Filariasis.
3. Manson, *Manual of Tropical Diseases*, 1900.
4. Cobb, *Proc. Lin. Soc. N.S.W.* Second Series, vol. v, 1890, p. 449.
5. Manson, on Filarial Periodicity, *BRITISH MEDICAL JOURNAL*, 1899, vol. ii, p. 644.
6. Mackenzie, a Case of Filarial Hematochyluria, *Trans. Path. Soc. Lond.*, vol. xxxiii, 1882, p. 394.
7. Fenton, a Specimen of *Filaria Loa* presented at the meeting of the Pathological Society of Toronto, December, 1899.
8. Manson, Discussion in Section of Tropical Diseases, British Medical Association, *BRITISH MEDICAL JOURNAL*, 1900, vol. ii, p. 536.
9. Strube, Ueber das endemische Vorkommen von Parasiteneiern und Larven im Harn der Bewohner von Natal and Transvaal, *Deut. med. Woch.* 1897. No. 33, p. 523.
10. Lothrop and Pratt, a Report of Two Cases of Filariasis; Operation for Lymphatic Varices and Chylous Hydrocele, with Removal of Adult Worms, *Trans. Assoc. Amer. Phys.*, 1900, vol. xv, p. 275.
11. Godlee, report of the Clinical Society of London, *Lancet*, 1902, vol. i, p. 668.
12. Gulland, The Condition of the Blood in Filariasis, *BRITISH MEDICAL JOURNAL*, 1902, vol. i, p. 831.
13. Coles, The Blood in Cases Affected with Filariasis and Bilharzia Hematobia, *BRITISH MEDICAL JOURNAL*, 1902, vol. i, p. 1137.
14. Calvert, Osinophilia in Filariasis, *Johns Hopkins Bulletin*, 1902, vol. xiii, No. 135, p. 133.—*British Medical Journal*.

# Progress of Medical Science.

## SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM, C. B. SHUTTLEWORTH  
AND F. W. MARLOW.

### Treatment of Fracture of the Patella.

At the Clinical Society of the New York Polyclinic Medical School Dr. Walter C. Gilday read a paper on the Treatment of Fracture of the Patella. The following *résumé* gives the main points:—"Treatment of recent fracture of the patella should be divided into non-operative and operative. The non-operative, in my opinion, is not the treatment of selection, but should be resorted to when the patient will not allow an operation. When we meet such individuals I prefer the method of Wyeth, which consists of two pieces of adhesive plaster cut in such a shape that they cover the entire anterior surfaces of the thigh and leg. At one end of one piece is left a narrow strip, to which is attached an ordinary buckle; on the other one the strip acts as a tongue that fits into the buckle. The thigh and leg having been scrubbed and shaved, the adhesive plaster is so applied that the upper and lower fragments of the fractured bone are caught respectively by the tongue and buckle. The buckle is tightened so as to draw the fragments together. They usually show a tendency to tilt upwards, which is overcome by placing a piece of cotton directly over the fracture, the counter-pressure holding the fragments in opposition.

Union is not bony, as the torn capsule will drop between the broken ends of the bone. A posterior splint is applied, and in a very few days the patient is allowed to go about with crutches, the sole of the shoe on the opposite foot being elevated. The buckle is tightened as the swelling goes down.

The treatment is kept up sometimes for months, and the result is not as satisfactory as after the open operation. The patient will complain that it bothers him to go down stairs, or to run, and will say that he is never "sure of his leg."

The best time to operate is the third or fourth day after injury, the patient having previously been kept perfectly quiet, with a posterior splint and an ice-bag applied continuously over the knee-joint. By this time hemorrhage will have ceased and the swelling subsided. If, however, the swelling has not sufficiently reduced itself, it is perfectly safe and proper to wait until the seventh or eighth day.



The asepsis is all-important, for the existing contused and lacerated soft parts, in the presence of blood clots and serum, present a fertile field for sepsis. On the other hand, there are several days during which to prepare the skin. This may be accomplished by applying, during the first day, a thin green soap poultice over the entire knee-joint, under the ice-bag; the next day scrub thoroughly two or three times with a brush and green soap; then an application of 1-5000 bichloride dressing is kept on till the time of operation. Tincture of iodine is applied to the skin immediately preceding the incision. The operator should so perfect his technique that his fingers never come in contact with the field of operation.

A few minims of a one-fourth of one per cent. of cocaine solution injected into the line of incision will completely anesthetize the whole field, and is preferable to general anesthesia. The cocaine solution must have a neutral reaction, which is accomplished by using normal salt solution as a medium.

I prefer the semi-lunar incision, with the convexity downward. The most serious objection to this incision is that the scar comes over the tubercle of the tibia, which can be obviated by bringing the incision a little above this point.

The incision being made, intervening blood clots are washed out with a stream of normal salt solution, the torn edges of the aponeurosis are picked up with a thumb forceps, the ragged edges trimmed off with a pair of scissors and sutured, care being taken to get perfect apposition, especially of the lateral aspects. Kangaroo tendon is the preferable suture material. The wound is dressed with an ordinary dry aseptic dressing, and a posterior splint applied. In the clinic of Prof. Bodin, an individual splint is used for each case. The splint is made of plaster of Paris, folded in the shape of a board, and before it hardens, applied to the posterior surface of the leg and firmly bound. The skin is first coated with a thin layer of vaseline, and the plaster applied directly to it, and excoriation has never resulted from this method. Plaster, after hardening, is removed, the rough edges are cut away and trimmed with adhesive plaster."

## OBSMETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. McILWRAITH, FRED. FENTON AND  
HELEN MacMURCHY.

### On Uterine Hemorrhage and Their Treatment.

Professor Jul. V. Elischer, physician of St. Rochus Hospital, Budapest, in an article on the treatment of Uterine Hemorrhages, says that in his clinic he has thoroughly tested the new uterine hemostatic styptol. The special diseases coming under observation were hemorrhage of the genitalia without any pathologico-anatomical substratum, and further such cases in anemia, endometritis, glandularis diffusa, metritis chronica, with or without subinvolutio uteri, retroflexio uteri, climacterium, and finally tumor of the uterus. Twenty-four cases were described in detail. The effect of styptol is compared with those of the usual hemostatica in gynecology,—hydrastis, ergotin and stypticin. Hydrastis is helpful up to a certain point, but in many cases it seriously diminishes the appetite and causes tormenting stomach troubles and retching, whilst sometimes the effect fails. Ergotin produced with one patient, even with small doses, feelings of anxiety every time; stypticin certainly generally held the hemorrhage in check, but had no influence in preventing a quick return of the bleeding nor upon the pains occurring; in two cases it produced, in addition, strong nervous excitement, and also quite failed in its proper effect. Styptol without a doubt yielded the best results in doses of .05 every three hours or a tablet three times daily. Unpleasant secondary results never occurred, and the sedative effect was always strongly pronounced. It is interesting to observe that styptol exerts a sedative influence on the extensive vascular system of the sympathetic nerves, because then styptol should thus be not merely a symptomatic remedy, but should operate on the causa morbi in many cases of hemorrhage without pathologico-anatomical changes. In addition styptol diminishes the morbid secretion and hinders the thrombus formations.—*Wiener Med. Wochenschrift*, 1904.

### The Serum Treatment of Puerperal Fever.

E. Bamm finds that the introduction of antisepsis has done less for the puerperal condition than for all other forms of wound infection. This does not apply to lying-in hospitals, which used to be hotbeds for puerperal infection, but to the large mass of confinements in private houses (*Berl. klin. Woch.*, October 31st, 1904). He believes that this failure on the part of antisepsis is not so much due to the limited understanding

of midwives as to the enormous difficulty in carrying out a sufficient disinfection in a private house, especially of the poorer classes, and in the unfavorable conditions of the birth itself. A birth occupies many hours and the wounds are not like those of an operation. Coming to the conclusion that there is but little chance that the incidence of puerperal fever in private houses and in cases of midwives' attendance will be much further reduced, he turns his attention to the best methods of dealing with the infection when it has occurred. Local disinfection has proved a failure, save in cases of retention of putrifying portions of placenta, blood clots, etc. Curetting and the recently introduced (French) idea of *ecouvillonnage*—brushing out the cavity with a sort of bottle brush—are only dangerous and do not do more than the older antiseptic washing out. When streptococci have gained a foothold these means must fail to drive them out. The general treatment by means of plentiful nutrient food and alcohol only do temporary good, and do not really save any patients. It is, therefore, very desirable to possess a specific means of treating puerperal fever. The introduction of the antistreptococcic serum has so far led to very different opinions. Glowing accounts of its life-saving properties appear in the shape of accounts of single cases, while the trials given in clinics on large numbers of cases have not led to encouraging results. It is, however, not at all easy to decide what the real value of the serum treatment is. In spite of this difficulty and of all the deficiencies of the treatment, Bumm has employed it during the last ten years, and the bare fact that the animal experiments yield such distinct proof of its activity, impel him always to resort to this form of treatment. He has employed every variety of antistreptococcic serum, but now practically only uses Aronson's serum. His results are given as follows: In five cases of general septic peritonitis, starting from a septic (streptococcic) endometritis, as well as in four cases of operation peritonitis, all cases failed. Of three cases of pure septicemia, from streptococcic endometritis, with streptococci in every blood specimen taken, two ended fatally, while one recovered. In this case the temperature fell from  $41.5^{\circ}$  to  $37.5^{\circ}$  after the first injection, and, having risen to  $40^{\circ}$ , it fell again to  $37^{\circ}$  after the second injection. Shortly after this a localization of the process was found to have taken place. In two cases of septicemia with endocarditis, the serum failed. Four patients died of pure pyemia in spite of serum, starting from septic thrombophlebitis. The serum was not employed in those cases of parametritis and pulveoperitonitis, accompanied by septic salpingo-oöphoritis, as the appearance of a circumscribed tumor rendered the prognosis favorable without. In fifty-three cases the serum was begun

early, while there was only some septic endometritis present. In each case the streptococci were detected microscopically. It was not possible to determine any spread of the infection beyond the uterine mucous membrane by clinical examination at the time of the beginning of the treatment. Six of these patients died—one of peritonitis, one of pyemia, and four of septicopyemia. Of these fifty-three patients he deducts twenty-one whose symptoms were evidently mild; the remaining thirty-two were undoubtedly severe cases. In seventeen, streptococci were found in the blood, and he therefore feels justified in being highly satisfied that twenty-six of these women recovered. His belief of the efficacy of the serum is partly based on the observation which he has so frequently made that the temperature nearly always falls in response to the injection, even in cases which end fatally, and, secondly, because he has found twelve hours after the injection a distinct phagocytosis appears. He regards the rapid appearance of leucocytes containing streptococci as very direct evidence. He warns one to be extremely careful in applying the serum intravenously, but states that he regards the subcutaneous injection as quite safe. He believes that one is justified in giving a prophylactic injection immediately after difficult deliveries, especially after manual detachment of the placenta and decomposition of the "waters."—*British Medical Journal*.

---

## TRANSACTIONS OF THE EDINBURGH OBSTETRICAL SOCIETY.

---

The twenty-ninth volume of these transactions is to hand and as usual, it contains many interesting papers and discussions.

### Vaginal Caesarean Section.

Dr. Munro Kerr, of Glasgow, contributes a paper on "Vaginal Caesarean Section." He first distinguishes this operation from "the deep incisions which one makes to hasten delivery in cases of eclampsia, rigidity of the cervix, etc., when the cervix has become obliterated"; and it transpires, in the course of the paper, that these incisions cannot always be made sufficiently extensive to permit delivery. The operation consists in "separating the bladder from the anterior uterine wall, possibly the peritoneum from the posterior uterine wall, and splitting the cervix anteriorly; and, if necessary, posteriorly right into the uterine cavity." Not only that, but if need be, extensive vaginal incisions are made. The indications are: "When the

cervix is too rigid to dilate, and when the uterus must be emptied at once. . . . The great place for it is likely to be in accidental hemorrhage." Dr. Kerr states that the operation took him about four minutes to perform, that the after-stitching was not difficult, and that the bladder strips up easily in the puerperal uterus. In a subsequent paper Sir Halliday Croom states that the dangers of the operation are sepsis and hemorrhage, and that, notwithstanding Kerr's statement to the contrary, the after-stitching is difficult. The advantages which Dr. Kerr claims for this operation are :

1. It is sometimes the only method of rapidly emptying the uterus.

2. Absence of the shock which is apt to accompany forcible dilatation.

3. A clean cut instead of a tear to deal with.

Dr. Kerr is familiar with the use of Bossi's dilator, and it is evident that there are some cases in which he is afraid to use it for fear of producing lacerations. With regard to its use in accidental hemorrhage, we venture to point out that the hemorrhage which succeeds delivery in these cases is not always from a lacerated cervix, but as in a case reported the same evening by Dr. Ballantyne, from the inability to get the uterus to contract. This it is which has led some obstetricians to propose Porro-Cæsarean section as the only means of controlling the hemorrhage in this dangerous condition. We cannot see that vaginal Cæsarean section overcomes this difficulty.

### Thyroid Extract in Eclampsia.

Dr. Oliphant Nicholson, of Edinburgh, gives the history of another patient treated with thyroid extract. Pulse tracings are given showing the effects of thyroidism in reducing pulse tension. Sufficient evidence has been produced to show that this agent is a powerful vaso-dilator and diuretic, and as such it may well be given a place in the treatment of eclampsia and the pre-eclamptic state. Upon Dr. Nicholson's other hypothesis, that it may have a specific action on this disease as well, we must pass the Scotch verdict, "Not proven."

### Bossi's Dilator.

Dr. J. W. Ballantyne gives an account of eight cases in which he used Bossi's dilator. We cannot see that the results attained were better than the results attained by Harris's method of manual dilatation; and in the majority of the cases it does not appear from the account given that this method was inapplicable. One advantage always claimed for Bossi's instrument is that it can be more efficiently sterilized than the fingers; but Dr. Ballantyne tells us that it is difficult to keep the dilator

perfectly clean. Munro Kerr, in speaking of this instrument, gives his conclusions about it as follows:

1. When the cervix is obliterated and the os will admit the finger without difficulty, dilatation can be carried out in about twenty-five minutes, and there will be little or no laceration.

2. In cases where the pregnancy has advanced to or near term, even although the cervix is not obliterated, dilatation may be accomplished with comparative safety to the cervix, provided care, time and patience are expended on the operation.

3. In cases where the pregnancy is not far advanced great caution must be exercised in using the instrument, and in spite of the greatest care there will often be lacerations.

These conclusions are admirably clear. We think, however, that precisely the same claims may be made for Harris's method of manual dilatation, with this in addition, that the fingers are much more sensitive to detect a commencing laceration than their metal rivals. Bossi's or any other metal dilator can, of course, be passed through the cervix before the finger and thumb tip can, and this seems to us their one advantage.

### Obstructed Labor.

Perhaps the most interesting paper in the volume is one by Dr. Jardine, of Glasgow, the title of which is, "Clinical Notes of a series of twenty-two cases of Obstructed Labors, including eight cases of Induction of Labor, four cases of Symphyseotomy, and ten cases of Cæsarean Section."

The author says further: "During the past year my colleagues and I have treated 703 cases in the Glasgow Maternity Hospital, and in this number we have had to deal with ninety-eight cases of contracted pelvis. This is certainly an extraordinary proportion, viz., about one in seven, and it does not by any means include all, but only those in which there was difficulty in delivery. The slighter forms, where delivery was effected by nature, are not counted." Furthermore, "cases 2, 5 and 6 of Cæsarean section, were all operated on within fourteen hours." Again, "There are at least six cases waiting for section within the next three months." Truly, these Glasgow obstetricians lead a strenuous life!

In his remarks on "Induction of Labor," Dr. Jardine says: "The cases suitable for induction are practically the same as those for symphysiotomy. . . . The great point to decide the matter is the size of the head relative to the pelvis, provided that the child has reached an age at which it will have a good chance of surviving. . . . To give the child a reasonable chance the thirty-second week should have been reached. The nearer full term the better. If the head will not pass the brim at the thirty-second week, I think one should decide upon an

operation at full term, preferably Cæsarean section. On the other hand, if the head can be easily pushed into the pelvis we should wait, seeing the patient week by week, until the time comes when the head enters the brim with difficulty. Labor should then be induced without delay."

He does not think that the operation of symphysiotomy will ever become a favorite one in Britain. There is much unavoidable laceration of the soft parts, great difficulty in nursing, and a long convalescence.

Many interesting gynecological papers are also included. Dr. Scott Carmichael's on "Leucocytosis in Pelvic Disease in the Female," will be of value to the obstetrician who finds it difficult to determine whether a temperature in the puerperium is due to a generalized septicemia or to a localized collection of pus.

In conclusion, we should wish to add our voice to the general expression of regret at the death of Dr. Milne Murray. He will be greatly missed on this side of the Atlantic as well as in his own land.

K. C. M.

---

## OPHTHALMOLOGY AND OTOTOLOGY.

IN CHARGE OF J. T. DUNCAN, M.B., M.D.C.M.

---

### The Removal of Foreign Bodies from the Eyeball and Inner Surfaces of the Lids.

Dr. Mark Stevenson (*Therapeutic Gazette*) has a carefully written article on this subject. But little has been written about the removal of the usual foreign bodies or substances, viz., sand, emery, lime, scales of iron, etc., which so frequently find lodgment on the inner surface of the lids or outer coats of the eyeball. These accidents to the eye are of very frequent occurrence; hence not only the trained specialist, but also the general practitioner, and even a fellow employee or layman, is called upon to give relief. It is of the greatest importance in many cases to be able to act quickly and wisely.

No doubt there is more blindness and more distress caused in the aggregate by these so-called simple cases than by the penetration of foreign substances into the eyeball, about which we read so much. They should be removed as soon as possible, for if in the cornea, an inflammatory infiltration will soon form about them in the shape of a gray ring. Later the tissues in this place will break down, the particle falls out, and healing takes place in favorable cases, a fine scar only marking its loca-

tion; but an infective ulcer, a severe inflammation, or an iritis may follow, and the worst result—such as loss of the eye. Particles of powder and lime are the only substances that may remain in these tissues without exciting suppuration, by becoming permanently incorporated in them.

It is proper to first get a short history of the accident, when and how it occurred, the nature of the foreign substance, if possible, and where it seems to be lodged at the time of the examination. If it is not lime or some caustic alkali or acid (see later), it is well to instil two or three drops of a 4-per-cent cocaine or 1-per-cent holocaine solution, a minute apart.

First draw down the lower lid so as to expose its inner surface. A condensing lens of about a three-inch focus should be used to throw a strong light on the part of the eye examined. If anything is seen, it can usually be removed by some moistened cotton wrapped on the end of a probe or toothpick. If it is not here, separate both lids, and carefully examine the cornea and bulbar conjunctiva. Light must be focused on the cornea by the lens, which is moved about, so as to illuminate the different areas in turn. A binocular magnifier or loop is of great service in aiding the examiner's eye to detect small particles.

Frequently an eye will have to be examined, the cornea, of which has been already picked, scraped, or otherwise mutilated in previous attempts at removal. The epithelium is often rolled up in little curls, and may be readily mistaken for some foreign substance. Sometimes, also, the substance is enclosed in or behind rolls of this epithelium and greatly hidden from view, so that the most painstaking care must be used to detect and remove it, as a slender wavering tag of epithelium must often be removed at the same time.

A very excellent method, where no foreign body can be detected in the remaining part of the eye sac, is to instil one drop of a 1-per-cent fluorescein solution. If an ulcer, abrasion, or an erosion of the cornea be present, it will immediately stain a light green. In the stained area the foreign body is likely to be found. If it is not easily removed by a swab of cotton, it is well to lay the patient on a lounge or table in good light, with the head slightly raised.

Besides the use of the two or three drops of cocaine or holocaine solutions already instilled, it is well to apply a small amount of the solution to the exact spot, by means of cotton wrapped on the end of a probe, for half a minute or longer. In this way local anesthesia is best obtained. To remove the foreign body, two kinds of spuds are useful, one with a blunt, the other with a sharp-pointed end. With the former, substances can often be removed by short scraping movements, and with the latter are literally dug out.



As little of the surrounding normal tissue should be disturbed as possible, for the larger the denuded surface the longer the repair.

After the particle has been removed and the eye sac cleansed by a sterile or weak antiseptic solution, if there is much congestion of the conjunctival vessels, cold applications (cloths wrung out of cold water) are usually very grateful and soothing to the eye. The patient may use cold applications for ten minutes every hour or two if much discomfort is experienced.

If the pupil be active and not abnormally small, a drop every two or three hours of a simple boric acid solution will be all that is needed, and many times no drops are required. The eye should usually be covered with a pad and bandage until the epithelium is renewed. If the case is a serious one, a drop of atropine may be used to dilate the pupil.

If the foreign body has not been found on the lower lid or the cornea, the upper lid should be everted. The inner surface of the lid should now be carefully examined, and frequently the offending material will be found in a shallow groove about one or two millimeters from the edge of the lid. It may be wiped off with cotton as before, or removed by forceps or a spud if embedded in the mucous membrane.

If it cannot be found, the fornix or upper portion of the conjunctival sac should be exposed. The patient continues to look down, while the edge of the lid is pressed well back and somewhat downward, and a small smooth metallic or glass rod is pushed between the out-turned lid and eyeball, and what is now the lower, but at other times the middle part of the lid, can be thereby lifted away from the eye, exposing to view the whole upper portion of the sac. If seen here it may be removed with the swab or washed out by syringing.

In case there is a large denuded area, and infection is likely to occur on account of an existing dacryocystitis, conjunctivitis, or because of the infective nature of the wounding particle, it is often well, especially if the patient lives at a distance, to give an iodoform ointment gr. v in ℥ij of vaselin (atropine gr. 1 in addition in some cases). Of this, a piece as large as a pea is to be placed in the conjunctival sac three times a day.

When caustic alkalies have been the offending agent, it is well to wash the eye with a weak acid solution; in case of acids use alkaline solutions.

If unslacked lime ( $\text{CaO}$ ) has been thrown in the eye very recently, avoid the use of water, but wash the eye out immediately with an oil, such as sweet, olive, or castor oil (a supply of the latter should be kept handy). A very strong solution of cane-sugar subsequently dropped into the eye forms an insoluble compound with the lime and renders it harmless. After the complete removal of the lime it is well to use cocaine or

holocaine in castor oil. A drop of this should be instilled into the eye sac every two or three hours to control pain. If opposing surfaces of the conjunctiva are destroyed the eyeball should be moved from side to side or up and down at intervals, or the lid may be lifted away from the ball to prevent union of the surfaces (symblepharon). If the conjunctiva in the fornix has been destroyed, probably nothing will prevent symblepharon, although some of the surgical appliances recommended may be useful. Ordinary air and water-slaked lime may be removed like any other foreign substance, as they are not caustic in their effect if completely slaked.

### The Non-Operative Treatment of Trachoma.

Dr F. J. Parker (in *Medical Record*) advises as follows: After thorough cocainization, the everted lids are rubbed hard three times a week with a cotton applicator dipped in bichloride 1-500. At home iced cloths and drops of an organic silver compound morning and night. After the conjunctiva has become smooth, treatment is continued by the application of a solution of tannic acid in glycerine, forty grains to the ounce. In the variety with hard follicles the copper sulphate crayon is applied to the conjunctiva, excess being washed away with boric acid. In the third stage, with cicatricial contraction of the lids and pannus, the writer recommends rubbing the conjunctival surface with castor oil, and making superficial linear scarifications with the knife. Copper crayon is also useful. Pannus should be treated by hot applications and atropin. Larger vessels may be divided at the corneal margin by the actual cautery.

The following slip is advised to be given to all trachoma cases, and will be found to be of much use in large clinics:

*Instructions to Those Having Trachoma*—Trachoma is a contagious disease of the eyelids, which if neglected will cause suffering and injury to the sight.

To avoid infecting others, those having the disease should observe carefully the following instructions:

1. They should have their own towels, handkerchiefs, wash cloths and toilet articles, which under no circumstances should be used by others.

2. They should sleep alone.

3. Avoid rubbing or touching the eyes, as the contagion may be carried on the fingers, and infect others through articles handled.

4. The hands should be cleaned often with soap and water.

5. Treatment should be attended to regularly, and continued until pronounced cured by the physician.

**Furuncle of the Canal Otitis Externa Circumscripta.**

D. J. McDonald, M.D. (in *Medical Brief*), in regard to treatment, says: If the case is seen sufficiently early, efforts to abort the inflammation are in order. Small doses of bi-carbonate of soda, repeated every fifteen to thirteen minutes, for six to eight doses, low diet, especially in the lithemic subjects.

If the pain is severe, the inflammation marked, proceed as follows: "Thoroughly disinfect the meatus with bi-chloride solution, 1-5000, with a cotton carrier wound with a tuft of cotton, wipe dry, push the auricle upwards and backwards to straighten the canal, spray the part with a tube of chloride of ethyl, tilted slightly forward till the part becomes white; it is thoroughly frozen. Now go in boldly with a tenotomy knife, cut deeply through the swollen tissues down to the bone, promote free bleeding by gently washing out with a solution of formalin, ten grains to a pint of boiled water, dry thoroughly, insert cotton pledgets, soaked in a five to ten per cent. solution of carbolic acid and glycerine, being careful that there is no undue pressure on the surrounding parts. Repeat the latter every three hours. After two to three days carefully inspect the parts. If there are any granulations, curette thoroughly. Apply to the bleeding surface twenty grains of chromic acid to an ounce of distilled water. Dust with powdered boric acid.

Later the patient will complain of severe itching in the canal, and is liable to infect himself again. Here use white precipitate ointment. Instruct the patient to keep the ear clean, with a disinfectant, and thoroughly dry the canal. This is important. In addition to the means stated above, look after the general health, correct the constipation by seeking out the cause. If dyspeptic, put on appropriate diet; if anemic, give small doses of an easily assimilable iron preparation. If there is a tendency to recurrence, give Fowler's solution to the physiological limit.

## Editorials.

---

### TORONTO GENERAL HOSPITAL.

---

The recent efforts of the Toronto Lodge of Elks to raise some money for the sick poor of Toronto were eminently successful. On Monday evening, February 20th, the representatives of the Elks handed to the representatives of the Toronto General Hospital \$2,000, being the net proceeds of the "Fairyland" pantomime produced recently in Massey Hall. The ceremony took place in the Assembly Hall of the Temple Building, and, besides the full representation of the Toronto Lodge, there were fifty Hamilton brethren in attendance, headed by Supreme Exalted Ruler J. L. Counsell.

The three representatives of the Hospital, Mr. J. W. Flavelle, Mr. M. J. Haney and Dr. O'Reilly, were summoned to the lodge room, and introduced by Captain Arthur Kirkpatrick, Supreme Leading Knight. They were welcomed by Exalted Ruler, W. S. Ziller and Past Exalted Ruler James Glanville. Mr. Flavelle, in acknowledging the gift, returned hearty thanks on behalf of the Toronto General Hospital, and on behalf of the sick people ministered to therein. He felt sure that the efforts of the Elks, whose desires were voiced so happily by Mr. Glanville, would not only bring credit to their organization, but serve as an example to others to show the same helpfulness and kindness to those who suffer or may be in want. The Toronto General Hospital Trust is administered in such a way that the largest amount of good and helpfulness may come by reason of the exercise of the Trust. He stated that the authorities of the Hospital were all trying to do as well as they knew how with the limited means at their disposal. The Toronto General Hospital needs new buildings, and the Trust hopes that in some not too distant day this end may be realized. Mr. Cawthra Mulock's handsome gift was the commencement of happier days in this respect, and the Trust appreciates this act of the Elks the more on that account. "The name of the Society of Elks, as long as time lasts, will be associated with the Toronto General Hospital."

## PHYSICIANS IN GOVERNMENT.

---

Mr. Whitney, the new Premier of Ontario, has highly honored the medical profession of Ontario in selecting three physicians for his Cabinet. Dr. William A. Willoughby graduated from the University of Victoria in 1867. After practising a few years in Grafton, Ont., he removed to Colborne, in the County of East Northumberland, where he has been in active practice for about twenty-eight years. His great popularity in his riding has been shown by his wonderful success in the various elections which he has contested, and although as a rule chances in the riding are about even, his majorities have generally been large, his last being exceptionally so. He has been a consistent, energetic and active Tory in politics, but notwithstanding such activity has always been popular on both sides of the House.

Dr. R. A. Pyne received his degree of M.B. from the University of Toronto in 1878 and M.D. in 1880. Soon after graduating he became Registrar of the College of Physicians and Surgeons of Ontario. As an important officer of that body he has shown remarkably good executive ability. His management of students, graduating classes and doctors throughout the province has made him exceedingly popular with all classes of physicians. We think we may fairly say that he is the most popular physician in Ontario. His duties in connection with the council have allowed him to take a deep interest in educational matters at all times. He is well known to have a warm feeling towards the University of Toronto, and at the same time he has always kept in touch with the Public Schools, as shown by the fact that he is an ex-Chairman of the Toronto School Board.

Dr. J. O. Reaume received his medical education chiefly in Trinity Medical College, and graduated M.D. from Trinity University in 1886. He has had rather a remarkable record. He has been eminently successful, both as a physician and politician. Success came to him very early in his professional career. He soon acquired a very large practice, and was exceedingly popular with all classes of the community, including his patients. Those who know him best describe him as a

genial, jovial, big-hearted Frenchman. He carried his county in the Conservative interests when it is doubtful if any other member of his party could have accomplished the task.

We offer our congratulations to our three friends. We believe they are worthy of the honor which has been conferred upon them, and we wish them success.

---

## THE CANADIAN PREFERENCE LEAGUE.

---

The object of the Canadian Preference League is to foster a love for Canada and a preference for its products, its manufactures and its institutions.

To bring the efforts in this direction to a focus, a number of prominent men and women in various parts of the Dominion have formed an association under the name of "The Canadian Preference League," whose aim it will be to foster the growth of a national sentiment and to encourage the demand for all articles of home growth or home manufacture. The League invites Canadians of all classes (men and women) to join. Members engage themselves to give preference, when making purchases, to the products of this country and to all articles of Canadian manufacture, when the quality is equal and the cost not in excess of that of similar foreign products or manufactured articles. They are also expected to give preference to Canadian labor and to the educational and financial institutions of this country.

With the object of educating and strengthening members of the League in their determination to give practical preference to Canadian goods, a monthly journal is published under the name of *Canada First*. In this magazine every facility will be afforded for placing members of the League in touch with the latest developments in Canadian industry and commerce.

Both *Canada First* and the Canadian Preference League will be entirely free from political affiliation of any character. Members of the League believe that the best, quickest, and surest way to strengthen the Empire is to improve their own particular part of it to the best of their ability. With each part developed as fully as possible, the whole cannot fail to become mightier than ever.

The only fee is \$1.00, which includes membership in the League and subscription to *Canada First* for one year. This should be sent to the Honorary Secretary Canadian Preference League, Room 20, Home Life Building, Toronto.

---

### ONTARIO MEDICAL ASSOCIATION.

---

The next meeting of the Ontario Medical Association will be held in the Medical Building of the University of Toronto, Tuesday, Wednesday and Thursday, the 6th, 7th and 8th of June.

Dr. Wm. Burt, of Paris, President of the Association, visited Toronto early in February to review the work of the Committee on Papers and Business and also that of the Committee of Arrangements. Both committees have nearly completed their work, and we are assured a good meeting may be expected. Among the outsiders expected are Dr. Ochsner, an eminent Chicago surgeon, who recently received a gold prize for his hospital exhibits at St. Louis, and Dr. W. B. Pritchard, of New York, whose name is well known in connection with his work on Nervous diseases. A fairly good number of papers have been promised already and more are looked for. The Committee on Business and Papers is particularly anxious to obtain active assistance from the profession outside of Toronto. It is very desirable that members from all parts of Ontario should co-operate with this committee. It should be remembered that a brief history of an interesting case in practice is often more interesting and instructive than a long elaborate scientific address.

We doubt if any president in former years has taken quite such an active interest in the Association as Dr. Burt has done since his election last June. It is hoped that the members from the east, west and north will join hands with the president in endeavoring to make the meeting of this year the best in the history of the Association.

---

The annual meeting of the Medical Society of the State of New York was held at Albany early in February, under the Presidency of Dr. Wey.

## DEATHS FOR JANUARY, 1905.

OFFICE OF THE SECRETARY PROVINCIAL BOARD OF HEALTH.

The deaths from all causes, as reported by 760 Division Registrars, for the first month of the new year are 2,216, and for the same month last year 2,200 were reported from a somewhat similar population. The population represented in these returns is 2,019,590, which makes the mortality rate 13.1 in 1,000, being the same as in 1904.

As may be seen by the comparative table, the total number of infectious diseases show a slight increase, which is largely due to the more complete return of measles, there being 236 more cases, but it is pleasing to know the deaths are less by 5.4 per cent.

Smallpox and scarlet fever show a marked decline, while diphtheria has been more prevalent, yet the case mortality remains much the same, being 15.2 per cent. in 1904 and 16.2 per cent. in 1905.

Out of 412 cases nine cities reported 269 cases with 33 deaths. Typhoid fever, with a greater number of cases reported and fewer deaths, would indicate that physicians are complying more readily with the Health Act in notifying Health Officers and Boards of Health of the cases coming under their care, or else the disease is of a milder type than that of a year ago. Tuberculosis caused 169 deaths, or 10 less than in January, 1904.

COMPARATIVE TABLE.

DISEASES.	1905.		1904.	
	CASES.	DEATHS.	CASES.	DEATHS.
Smallpox .....	10	0	103	0
Scarlet Fever ....	223	12	380	24
Diphtheria .....	412	67	382	58
Measles .....	268	4	32	2
Whooping Cough .	27	4	25	7
Typhoid Fever ...	69	21	39	23
Tuberculosis .....	174	169	179	179
	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>
	1183	277	1140	293

DIPHTHERIA BY CITIES.

CITIES.	CASES.	DEATHS.	POPULATION.
Chatham .....	12	0	9,068
Guelph .....	1	1	11,496
Hamilton .....	36	3	52,634
Kingston .....	2	0	17,961
London .....	18	0	37,983
Ottawa .....	4	0	59,928
St. Thomas .....	1	0	11,485
Stratford .....	1	0	9,959
Toronto .....	194	30	208,040
	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>
	269	34	

CHAS. A. HODGETTS, M.D.,  
*Secretary Provincial Board of Health.*



## MEDICAL ITEMS.

---

We are informed by Messrs. Blackiston, Son & Company, of Philadelphia, Pa., that during the year 1904, 15,090 copies of Gould's "Medical Dictionary" were sold, making the total sales to date 181,173.

A new wing of the Woodstock General Hospital was officially opened February 14th. Among those present were the following from Toronto: Mr. J. W. Flavelle, Chairman of Toronto General Hospital Trust; Dr. Charles O'Reilly, Superintendent Toronto General Hospital; Dr. Bruce Smith, Dr. Palmer, Dr. Bruce and Dr. B. E. McKenzie. Mr. Flavelle and Dr. O'Reilly delivered short speeches.

As announced in our last issue, the International Society of Gynecology and Obstetrics will be held in St. Petersburg, July 11th to 18th, 1905. We are requested now to state that the Chairman of the American Committee, Dr. A. Palmer Dudley, of 678 Madison Avenue, New York City, will be pleased to do all in his power to aid intending visitors, and will transmit to the committee of St. Petersburg all communications referred to him.

We regret to state that the *Canada Medical Record*, of Montreal, has ceased to exist. Dr. Francis W. Campbell, editor during its thirty-three years of existence, tells us the principal cause which has contributed to the demise, is the old one, the want of money, and mentions incidentally that it is not creditable to the medical profession, certainly not to the *Record's* subscribers, that out of one thousand on the mailing list not fifty paid the paltry annual fee of one dollar.

At the annual meeting of the Southern Surgical and Gynecological Association, held in Alabama, December 13th to 15th, the following officers were elected: President, Lewis C. Boshier, Richmond; 1st Vice-President, John D. S. Davis, Birmingham; 2nd Vice-President, I. S. Stone, Washington; Secretary, W. D. Haggard, Nashville; Treasurer, R. S. Rosser, Dallas. The next meeting will be held in Louisville, December, 1905. The monument erected by the association to its founder, the late Dr. W. E. B. Davis, was unveiled in Birmingham, December 14th.

It was rumored a short time since that Dr. L. F. Barker would remove shortly from Chicago to the Johns Hopkins Hospital, at Baltimore. It was supposed that he desired to do some work in clinical medicine. We understand that, on that account, he has been appointed Associate Professor in Rush Medical College, Chicago. This may signify that he will remain in the western city.

## Personals.

---

Dr. E. Herbert Adams and Dr. Maybury, of Toronto, went to Jamaica in January.

Dr. Orlando Orr, of Toronto, sailed from New York for Liverpool February 1st.

Dr. T. G. Roddick, of Montreal, is spending a portion of the winter in the Bahama Islands.

Dr. G. Sterling Ryerson, of Toronto, went to Atlantic City February 5th and returned February 21st.

Dr. Wm. Oldright, of Toronto, attended the meeting of the American Health Association at Havana in January.

Dr. J. Algernon Temple, of Toronto, went to Sidney, C.B., January 28th, and returned to his home February 6th.

Hon. Dr. Reaume, Commissioner of Public Works, will, it is said, give up practice in Windsor and reside in Toronto.

Doctors W. J. O. Malloch and A. C. Hendrick, of Toronto are going to London, England, in March, for post-graduate work.

Dr. Jos. S. A. Graham passed his final examinations for the conjoined M.R.C.S. (Eng.) and L.R.C.P. (Lond.) in the latter part of January. He expects to return to Toronto and commence practice in May.

The following physicians were recently appointed coroners for Ontario: Dr. Robert E. Darling, Goodwood; Dr. James Galloway, Beaverton; Dr. William Gilpin, Brecken; Dr. W. J. Henderson, Cannington.

Dr. Jas. F. W. Ross, of Toronto, after spending a few weeks in Southern California, went to New Orleans, where he will spend a fortnight taking in the Mardi Gras. He will probably reach Toronto about April 1st.

Dr. W. P. Caven, of Toronto, who had a serious attack of la grippe, affecting the antrum and middle ear, has recovered. He went to Atlantic City to recuperate February 7th and returned to Toronto February 23rd.

Dr. Marshall Dean (Tor. '99), of Brighton, who practised in Fort William for three years after graduating, has just returned from a prolonged trip to Great Britain and the Continent, where he spent about two and a half years.

## Obituary.

---

### GEORGE T. HUNTER, M.D.

---

Dr. Hunter, who was at one time a resident of Toronto, and for many years practised in New York, died somewhat suddenly at St. Augustine, Fla., February 11th.

---

### HARRY W. SPENCE, M.D.

---

Dr. Spence (Tor. '00) died at the residence of his father, Toronto, February 3rd, after a comparatively short illness, from heart disease. After graduating, he went to England and took the double qualification of the two colleges of London. He was attached to one of the British regiments during the South African War, and after peace was declared went to India, where he spent some months. He returned to Canada in 1904, and commenced practice in Ottawa. He spent one year as resident physician in the Toronto General Hospital, and was very popular with all classes, including his professors and his fellow students.

## Correspondence.

---

To the Editor of CANADIAN PRACTITIONER AND REVIEW :

SIR,—I have read with great interest the article by Mr. F. B. Shuttleworth upon Diphtheria Antitoxin, which appears in the current number of your journal. He gives there the results of the use of this remedy at the Riverdale Hospital for the last ten years, and on the whole is persuaded that cases treated with antitoxin show a higher mortality than cases not so treated. The mortality of the former averaging 18.7 per cent., while that of the latter was considerably less.

Are we to conclude then, that antitoxin is of no use, or even is harmful? If we do so we must needs go contrary to the enormous bulk of evidence which has been collected the world over in favor of this remedy.

In the *British Medical Journal* of May 9th, 1903, I published a paper giving the results of the use of antitoxin at the Victoria Hospital for Sick Children here, and venture now to quote from that article as follows :

“Between January 1st and July 7th there were 42 cases of diphtheria admitted to the infectious wards, all of which showed the Klebs-Loeffler bacillus. In nearly all cases the bacillus has been of the short variety. All, except a few of the mildest, were given antitoxin at once on admission, frequently before the bacteriological report had been received, the initial dose varying from 1,500 to 4,000 units. The dose was repeated in a few hours if required. In addition, the throat cases had their fauces painted with Loeffler’s solution of menthol and sesquichloride of iron, and where the nose was affected a spray of very dilute corrosive sublimate was used.

Of the 42 cases thus treated, 41 recovered completely; one died, a girl, aged 13, and some details of her case are as follows :

It seems that she had been in the city isolation hospital for several weeks before suffering from diphtheria. She was discharged in May, and was admitted to the Children’s Hospital on June 12th, for genu valgum. Her history states that she had “kidney disease,” and her urine, on admission, contained albumen and casts. On June 23rd she was sent into the diphtheria ward suffering from a mild attack of faucial diphtheria. So mild, indeed, was the case that she was not given antitoxin. A week later, when her throat was clear and her temperature normal she developed uremic symptoms, and died very quickly.

She was given 3,000 units of antitoxin when the uremia developed, in hopes of neutralizing the toxin that might be irritating the kidneys, but no amelioration resulted. The necropsy showed the kidneys to be contracted and markedly cirrhotic and white on section. The left weighed 5 dr. 12 gr., and the right 5 dr. 36 gr.

It is thus scarcely fair to call this a case of death from diphtheria, although that disease undoubtedly precipitated the final result. If antitoxin had been early and freely used possibly that result might have been averted, as the cirrhotic kidneys might have been saved the toxic irritation—but one can only surmise on this point."

To my mind when antitoxin fails to reduce the mortality in diphtheria, the failure must be due to one of three causes:

1st. Bad antitoxin.

2nd. Insufficient dosage.

3rd. Late administration of the remedy.

1. Mr. Shuttleworth does not give the source of the antitoxin which has so persistently failed to maintain its record at the Riverdale Hospital, but no doubt the manufacturers will be ready enough to produce evidence from other sources in defence of its purity and strength,

2. Mr. Shuttleworth gives the average dosage employed at the hospital, and, on the whole, this appears to have been fair, though by no means generous.

3. Mr. Shuttleworth does not state at what stage of the disease the antitoxin was administered, although he concludes from what seems like very insufficient evidence, that the time of administration "has not been a factor of much importance."

Here, in my opinion, lies the explanation of the sad failure of antitoxin to reduce the diphtheria mortality at the Riverdale Hospital.

In order to be effectual antitoxin must be administered *early*, as is well shown by Dr. Otto Jelinek's figures (*Das Oesterreich-sches Sanitäts Wesen.*, No. 52, 1900). He collected the reports of all cases of diphtheria reported in all parts of the world to the close of 1898, in all 127,359. His table is as follows:

Those treated with antitoxin on 1st day had a mortality of 5.07 per cent.						
"	"	"	2nd	"	"	8.49 "
"	"	"	3rd	"	"	15.56 "
"	"	"	4th	"	"	23.36 "
"	"	"	5th	"	"	30.02 "

Recent reports of the collective investigations of the American Pediatric Society, the Austrian Sanitary Department and the Imperial German Health Office fully confirm these results up to the present time.

From this it will be seen that in order to be effectual the

remedy must be used *early*, and this is, I think, the universal opinion still held. In order to make Mr. Shuttleworth's figures of any value at all we should be informed upon what day of the disease the remedy was given. In fact, all cases in which it was first administered after the 3rd day would better be excluded, as in the opinion of most authorities the remedy by that date has nearly lost its efficacy.

In spite of Mr. Shuttleworth's paper then, I, for one, continue to have great faith in antitoxin, and still endorse the conclusions I came to in the article above referred to, namely:

1st. Every case of diphtheria should be treated with antitoxin. As a rule the diagnosis is easily made clinically, and it is better in such cases not to wait for the bacteriological report, but to inject the serum at once. Then, if the diagnosis be confirmed by the bacteriologist, one has "stolen a march" of several hours on the disease; if the case proves not to have been diphtheretic, one has at least done no harm.

2nd. The serum should be administered not only early, but also freely, 3,000 units being an average first dose.

3rd. This use of antitoxin in no way interferes with the employment of any medicinal or other treatment which may be indicated, but all the latter are of secondary importance during the first few days of the illness.

ROBERT D. RUDOLF.

TORONTO, February 3rd, 1905.

## Book Reviews.

---

**A Text-Book of Clinical Diagnosis.** By Laboratory Methods. For the use of Students, Practitioners, and Laboratory Workers. By L. NAPOLEON BOSTON, A.M., M.D., Associate in Medicine and Director of the Clinical Laboratories of the Medico-Chirurgical College, Philadelphia; formerly Bacteriologist at the Philadelphia Hospital and at the Ayer Clinical Laboratory of the Pennsylvania Hospital. Octavo volume of 547 pages, with 320 illustrations, many of them in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

Dr. Boston here presents a practical manual of those clinical laboratory methods which furnish a guide to correct diagnosis, giving methods that can be carried out by the busy practitioner in his office as well as by the student in the laboratory. He has given special attention to outlining in progressive steps the various procedures in clinical technic, such steps being illustrated wherever possible. All the more recent methods for the examination and staining of blood are described and illustrated by original drawings, and the subject of serum-diagnosis is very carefully considered. The newer methods for the estimation of sugar, Bence-Jones' albumin, uric acid, and purin have received thoughtful consideration. The subjects of animal parasites, diseases of the skin, transudates and exudates, and secretions of the eye and ear are very fully treated. Attention has also been paid to inoscopy and cyto-diagnosis.

---

**A Text-Book of Legal Medicine.** By FRANK WINTHROP DRAPER, A.M., M.D., Professor of Legal Medicine in Harvard University; Medical Examiner for the County of Suffolk, Massachusetts. Octavo volume of 573 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1905. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

The subject of legal medicine is one of great importance, especially to the general practitioner, for it is to him that calls to attend cases which may prove to be medicolegal in character most frequently come. Dr. Draper has written his work both for the general practitioner and the medical student. He has not only cited illustrative cases from standard treatises on forensic medicine, but these he has supplemented with details from his own exceptionally full experience—an experience gained during his service as Medical Examiner for the City of Boston for the past twenty-six years. During this time his investigations have comprised nearly eight thousand deaths under a suspicion of violence. The author's long teaching career has enabled him to state facts and detail procedures with a clearness rarely met in a work on legal medicine. Withal, we think Dr. Draper's book is unusually satisfactory: it is more,—it surpasses our expectations.

**Diet in Health and Disease.** By JULIUS FRIEDENWALD, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and JOHN REHRAN, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Octavo volume of 689 pages. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$4.00 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto.

This work is practical and comprehensive, being prepared to meet the needs of both the general practitioner and the medical student. It contains a full account of food stuffs, their uses and chemical compositions. Dietetic management in all diseases is carefully considered, the articles on diet in diseases of the digestive organs containing numerous diet lists and explicit instructions for administering. The feeding of infants and children, of patients before and after anesthesia and surgical operations, and the latest methods for feeding after gastrointestinal operations have never before been discussed with such practical detail. The subject of rectal enemata is given completely, with recipes and full instructions as to technic. Diet is considered in its relations to age, occupation, and environment; and the beneficial results from the rest cure have been accorded prominent consideration. There is also a section on food adulteration and the resultant diseases.

---

**Saunders' Medical Hand-Atlases Atlas and Epitome of Operative Ophthalmology.** By DR. O. HAAB, of Zurich. Edited, with additions, by G. E. DE SCHWEINITZ, M.D., Professor of Ophthalmology in the University of Pennsylvania. With 30 colored lithographic plates, 154 text cuts, and 377 pages of text. Philadelphia, New York, London: W. B. Saunders & Co. Cloth, \$3.50 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Professor Haab has laid the medical world under obligation by his series of atlases on the eye. The volume before us forms an admirable conclusion to the series. In this volume he covers the ground completely. He begins with a discussion of the proper construction of operation rooms, narcosis, sterilization of ophthalmic instruments, bandaging, local anesthesia, salivary infection and instruments. Practical information is given on each point, his remarks on anesthesia, general and local, are especially full and admirable. Ophthalmic operations are described with the fidelity and clearness which thirty years' practice brings. The colored illustrations and text cuts as well are clear and correct. The editor, Dr. De Schweinitz, has rendered the volume much more valuable by his additions. Altogether this is a book which any one having to do with operations on the eye will find of much value and interest.

J. T. D.



# Selections.

---

## The Action of Antistreptococcic Serum.

Since this substance was first introduced into therapeutics, there have been diverse views as to its method of action. It is certainly not an antitoxin, since no soluble poison can be separated from the streptococci. Nor is it a bacteriolytic serum, because the streptococci thrive in it and multiply rapidly.

In the peritoneal cavity of a rabbit injected with this substance, we find a more active phagocytosis than normal, the phagocytes having the power of taking up the virulent cocci. Neufeld and Rimpan (*Deutsche Med. Wochens.*) have pursued the subject further, and find that the streptococcic serum does not bring about a change in the leucocytes, but so alters the cocci that they are unable longer to resist the phagocytes.

It seems probable, therefore, in the light of their researches, that although there is a stimulation of the phagocytes, the serum at the same time neutralizes something in the bacteria, which previously had prevented them from being devoured by the phagocytes. This substance in the antistreptococcic serum is of the nature of an amboceptor and is not destroyed by heating the serum to 59° C for half an hour.

There is still a great deal of doubt about the reason for its failure in some cases and its success in others. Some investigators think that the serum for clinical purposes must be prepared by injecting the animal with a mixture of many strains of cocci. Others insist that the bacteria must not be passed through animals, but must be used as they come from the human body.

## Manual Compression of the Heart for Cardiac Failure During Chloroform Anesthesia.

Sick (*Centralblatt fuer Chirurgie*) reports a case of sudden cardiac and respiratory failure in a fifteen-year-old boy during an operation for tubercular peritonitis under chloroform anesthesia. Except for an early momentary return of respiration and faint heart sounds, artificial respiration and massage over the heart were employed for a half hour without any effect.

Artificial respiration was continued, and the heart was exposed fifteen minutes later by resecting a portion of the chest wall. Direct rhythmical compression of the heart for fifteen minutes was followed by one feeble cardiac contraction. Continued manual compression and the application of hot compresses to the anterior surface of the heart for another fifteen minutes resulted in strong, regular cardiac pulsations.

The patient recovered consciousness two hours after the completion of the operation, but finally died about twenty-four hours later.

**Alcohol in Typhoid Fever.**

In the Bradshaw lecture this year Caiger remarked that in the majority of instances of typhoid fever alcohol was not only indicated but was distinctly harmful, nevertheless, in certain cases it was of use as a stimulant. The indications for its use he specified as follows: Constant delirium and sleeplessness with muscular tremor, feeble circulation, and a dry, brown tongue; unusual weakness of the pulse without other signs; cardiac dilatation, cyanosis, pulmonary congestion, and pneumonia; hyperpyrexia, diarrhea, and intestinal perforation. In elderly people alcohol may be administered with advantage. In patients who are very much depressed mentally a good article of champagne is the best form of alcohol to administer. Alcohol, however, cannot compare with digitalis and strychnine for lasting effect where there is ventricular dilatation and a tendency to, or in the presence of, pulmonary congestion.—*The Clinical Review*.

**Protruding Irritable Hemorrhoids.**

Rumvil advises that the parts be cleansed with cold water (unless hot water is found to be more comforting) three times daily and then anointed with the following, which may also be spread on gauze and maintained in position by a T-bandage:

R	Opii pulv	.....	gr. xx.
	Gallæ pulv	.....	
	Plumbi acet	.....	aa. gr. xxx.
	Ichthyol	.....	ss.
	Petrolatum	.....	ʒi.—M.

The bowels should be rendered soluble, and along with this local attention general care is demanded, with reference especially to the dietary, the use of alcohol and the habit of work and rest.—*The Clinical Review*.

**How to Overcome Insomnia.**

A variety of expedients have been resorted to to induce sleep. Practically all are based upon fixing the attention and exercising the mind in some monotonous performance. Perhaps the commonest is that of "counting the sheep over the fence." Less frequently repeating the alphabet backward and other means of fixing the attention, with a consequent mental fatigue which leads to sleep. How valuable these methods may be can only be estimated by individual experience. Unquestionably they have a sound basis, as they produce a mental state which induces sleep.

Far better than mere counting or other effort is the suggestion

made by Dr. Learned some years ago—that of deep breathing and at the same time counting the respirations. When lying down the respirations usually fall to fourteen or even twelve to the minute, but if forced inspirations are made the rate may go as low as eight or six, consequently there will be quite a free interval between respiration and inspiration in which the lungs are quiet. Deep breathing is a physically fatiguing process. Associated with this is the mental concentration of keeping up the effort, and at the same time keeping track of the number of respirations. In moderate degrees of insomnia this method is unquestionably efficient. The writer's own experience and those of individuals to whom he has recommended it have shown that it is rare that an individual can breathe deeply more than a hundred times without falling asleep. As a matter of fact, if he is not asleep at the end of that time he will become so fatigued and discouraged that he will give up the attempt, feeling that he would rather be awake than to make the effort necessary to continue the struggle.

In Dr. Learned's original description of this method he recommended that fatiguing muscular exercises be associated with it, such as raising one arm, holding it up until fatigued, then raising the other one, then in order the legs, and lastly the head, and then beginning over again. These muscular efforts of the extremities are not essential and render the process unnecessarily complicated, though they may be tried when the breathing exercise fails.—*Medicine*.

---

The Mayo brothers, of Rochester, Minn., have recently rendered a report covering one thousand cases of operation for gall-stone disease, with a mortality of five per cent. In this report all cases of whatever character are included. Therefore, when forty cases of malignant disease, with a mortality of 22.5 per cent. are allowed for, the significance of the above-mentioned low death rate can be in a measure appreciated — *The Clinical Review*.

---

Physicians may be pleased to learn that Dr. Edward Playter gives particular attention to the home treatment of consumptives. He requires patients to remain under his care, observation and study, from one to three weeks, when he directs them how they can best live, as in respect to breathing, diet, exercise, etc., and be then treated at home by the family physician, to whom, indeed, as a busy practitioner, this offers relief, and freedom from a measure of responsibility. Address, 762 Broadway Avenue, Toronto.