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Original Articles

*DIAGNOSTIC VALUE OF THE CYSTOSCOPE.

BY GEO. EWART WILSON, M.B. (TOR.), F.R.C.S. (ENG.),

Demonstrator of Anatomy, University of Toronto; Clinical Assistant in Surgery, University of Toronto.

Of the numerous mechanical devices for diagnostic purposes invented within the past quarter of a century, the cystoscope stands easily in the front rank. To Doctor Max Nitze must be given the honor of being its originator, he having designed his instrument in 1879. In Nitze's original instrument the source of light was a platinum loop kept at a white heat by an electric current. This was a tremendous advance upon the old paraffin lamp, although Bruck of Breslau, a dentist, had fifteen years previously conceived the brilliant idea of utilizing a platinum wire heated by galvanism as the source of light for examining the mouth, and constructed for that purpose what he called a stomatoscope. The difficulty with the platinum loop cystoscope lay in the great heat given off, thereby necessitating a water-cooling apparatus which was so cumbersome that although the instrument was hailed with delight by the profession it soon fell into disuse. With the introduction by Edison of the cold lamp the modern cystoscope had its inception, Nitze having successfully used it in 1887. Since that time numerous modifications and improvements have been put on the market, especially devices for catheterizing the ureters and a plan whereby the bladder can be irrigated to insure a clear medium.

In general cystoscopes are divided into the direct and indirect. In the former the prism is at the end of the tube, and one sees that part of the bladder in the direct line of the shaft; while in the

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indirect the circle of the viscus which comes into view is at right angles to the long diameter of the instrument. Some are so constructed that the illumination is on both sides of the beak, while others throw the light on only one side, either back or front. In some the catheters emerge on the convex while in others on the concave side. Personally, I use the improved Nitze instrument with the light on the concave aspect of the beak near its termination, the prism being placed in the concavity formed by the shaft and the beak; while immediately behind this lies the opening for the emergence of the catheter with an arrangement for changing the direction of same. The cystoscope proper can be withdrawn from its sheath for irrigation purposes and without allowing the bladder content to escape. The calibre of the instrument used for cathetering purposes is No. 22 French. For simply examining I use Nitze's No. 18 French.

Before attempting to use a cystoscope upon the living, unless one is fortunate enough to receive his training from someone thoroughly acquainted with its use, he should practise carefully upon a bladder in the post-mortem room; or, if that be impossible, then with Leiter's phantom bladder. The former method, however, is much the better, for one can familiarize himself with the passage of the instrument and can also open the abdomen and pass a catheter down the ureter until it just enters the bladder, thus allowing the operator to orient himself. It is surprising what a good view may in this way be obtained; the color of the mucous membrane, provided the subject be fresh, differing very little from that seen in the living. By so doing he will save himself an immense amount of time and his patients much pain. At the same time he will become familiar with the various distortions of the images seen and appreciate, for example, that an object which is apparently in front of an ureteral orifice is in reality behind it. True, there are instruments now made correcting such distortions, but to one who has become acquainted with the uncorrected images they are very readily intelligible. Thus equipped, the surgeon is in a position to examine his patient, and I now propose to describe briefly the technique employed.

There are three requisites for a successful examination of the bladder: (1) The urethra must permit of the passage of the instrument without the use of any undue force, and generally the calibre must be 22 French, although for examination purposes only an 18 French might suffice. (2) A clear medium, either in the form of the patient's urine, as desired by Fenwick, or a 1:30 boracic solution. If the bladder is particularly sensitive I use a normal salt solution,

as it seems less painful. Casper recommends oxycyanate of mercury 1:5,000, believing it to be the least irritating of the antiseptics. (3) The bladder must hold at least 4 oz. of the medium.

With these conditions fulfilled we proceed as follows, taking a male patient as an example: If practicable, he should be given ten grains of urotropin three times a day for twenty-four or forty-eight hours previously, and about a pint of Vichy water half an hour before the examination. With everything in readiness, he should connect up the cystoscope and adjust the transformer so that the lamp emits a clear white light. The instrument may then be disconnected and placed in 1:30 boracic solution. The patient is placed upon his back, with a pillow under the buttocks to elevate the pelvis; the legs are flexed, the heels resting upon footrests, or, if desired, the lithotomy position may be adopted. The penis is now thoroughly cleansed by an assistant, using green soap and water followed by 1:2,000 bichloride. The whole pubic region is then covered with a sterile towel having an opening suitable for the passage of the penis. The surgeon now scrubs up, puts on a rubber apron, sterile gown and rubber gloves. The latter, while essential for asepsis, are very useful in preventing slight shocks which necessarily interfere with accurate work. With a half-ounce syringe filled with a four or five per cent. solution of cocaine the urethra is gently and slowly distended. As soon as the anterior urethra is full one should wait for about a minute, and then very slowly inject the remainder so that about every ten seconds a little of the solution will get past the cut-off muscle and anesthetize the posterior urethra, which is the part most sensitive. If there is great irritability of the bladder a second or a third syringeful may be similarly used, as there is practically no danger of poisoning, notwithstanding the dread which some writers have. In any case, the most of the drug is gotten rid of by the next procedure, which consists in passing a soft rubber catheter some three minutes after the cocainizing process. It is well to have a gum elastic catheter ready, as it sometimes happens that the Jacques variety cannot be made to enter the bladder. With the catheter in place the bladder is washed out usually with 1:30 warm boracic solution. If the urine is moderately clear two or three washings are sufficient, but if there is much muco-pus repeated cleansing is necessary to ensure a clear medium. When satisfied that the viscus is clean enough about five to seven ounces of the fluid are left in, the catheter withdrawn, and the cystoscope, previously prepared, is inserted.

Various lubricants for the instrument are advised, the three essentials being transparency, an oily substance and one easily ren-

dered sterile. Personally, I use pure glycerine with sufficient bichloride of mercury powder to make a 1:1,000 solution. In passing the instrument the utmost gentleness must be exercised, and here the experience gained in the post-mortem room will be invaluable. If the patient be in the lithotomy position the legs should be brought down until the cystoscope has been passed. There are two stages in the passing of the instrument. The first includes the insertion until the beak strikes the posterior part of the bulb, during which period the long axis of the shaft should be roughly at right angles to the patient's body, the beak being directed against the anterior layer of the triangular ligament. In the second stage the posterior urethra is traversed. The instrument should be very slightly withdrawn and a finger on the perineum gently presses the beak against the opening in the triangular ligament, when he will feel it enter the membranous urethra. The ocular end is then gently depressed between the thighs and at the same time very carefully pressed on into the bladder. The electric connections are then made, and the operator seats himself on a low chair.

In the female the technique is very much simpler. The vulva should be cleansed by the nurse before coming to the table. The urethra, and especially the neck of the bladder, which is the most sensitive part, being cocainized by means of a female glass catheter to which is attached a rubber bulb.

When it is desired to catheterize a ureter, the opening when found must be viewed as near as possible at right angles. The catheter should fit the channel closely, in order that there should be a minimal leakage of the medium. Usually a No. 7 French will meet the requirement. These may be sterilized by boiling for five minutes, provided a towel be wrapped around them, or immersion for the same length of time in a 2% formalin solution will suffice. If the latter method be used the formalin must be carefully washed off, else the fumes will so irritate the eyes as to make the examination impossible. If one wishes to avoid all danger of infection it is advisable to use a new catheter upon each occasion. It is very convenient to have an aluminum mandrin passed through the catheter, care being taken that its end reaches only to within three or four inches from the catheter eye. Unless this precaution is taken one may find that the catheter buckles when trying to pass it onwards into the kidney.

The cystoscope enters the bladder with the prism directed towards the upper surface, and floating upon the fluid will be seen an air bubble of greater or less size. This has been introduced with the boracic solution, and comes away at the end of voluntary micturition, and is of no importance. By turning the beak to either side

the lateral walls become visible, while the trigone and posterior walls are seen when the beak is directed downwards. Normally the mucosa is of a reddish-yellow color, with fine branching blood vessels not unlike the fundus of the eye. The surface is clear and has a glistening appearance due to the highly refractory surface. The trigone is smooth and darker in color than its adjacent areas, from which it is sharply marked off. Its base coincides with the inter-ureteric bar, which usually stands out definitely and distinctly and presents at either extremity the ureteric orifice. If the beak be pushed somewhat farther back after examining the inter-ureteric bar, the characteristic difference between the trigone and posterior wall will become evident, the latter showing the usual color but presenting numerous fine trabecula, with very often minute sacculations between—a picture in miniature of an hypertrophied bladder following long-standing urethral obstruction. Most commonly the ureteric orifices appear as more or less transverse slits about an eighth of an inch in length, and of a distinct red or deep pink color. The surrounding area is several shades lighter in color, and a vessel can often be traced directly into the opening. In some cases the edges appear to be slightly thickened, but if that be the normal then one should find the opposite opening in a similar condition. Rumpel's artist paints the normal ureteral orifice as of semilunar shape, and not upon one occasion but upon all. Unless a lens of different make is used in his instrument this is certainly an error. True, it may appear more or less oblique, instead of transverse, but that depends entirely upon the relative positions of the instrument and the opening. If the bladder be only moderately distended the orifice may present as an opening upon a truncated cone with the base apparently directed upwards and inwards. Watching one of these openings, one will observe from time to time—about once every ten or twelve seconds, the time varying considerably in health—that the area immediately surrounding the orifice swells up and draws itself together. Suddenly the slit opens till it assumes an oval contour and a swirl of fluid is emitted, producing eddies in the medium similar to the injection of glycerine into water. During the efflux, which lasts about two seconds, the opening and extremity of the inter-ureteric bar are forcibly pushed forward so as to approach the cystoscopic prism.

The older writers, and some modern authorities as well, were in the habit of giving a considerable number of contra indications to the use of the cystoscope, including among the number prostatic enlargement, tuberculosis of the bladder and the various forms of cystitis. Keyes says that the cystoscope should not be used for the

diagnosis of prostatic hypertrophy, cystitis or stone in the bladder. The instrument, he believes, irritates tuberculosis of the bladder even more than do local measures, and he would only use the cystoscope for catheterizing purposes, tumor and in obscure cases for diagnosis. At the present time most cystoscopists are unable to agree to these objections, finding by experience that the fears of these writers are in most instances groundless. Personally, while I do not advocate a cystoscopic examination every time a patient complains of a little frequency and pain on micturition, I recognize no contra indication whatever, provided, of course, the individual is in a sufficiently healthy state to stand the necessary manipulation. In acute cystitis there is practically never any indication for its use, but even then it may be done without any ill effects to the patient if one carries out the procedure in the routine gentle and aseptic manner. If one were absolutely sure of the diagnosis, then there should be no need for using the instrument at all, but in these days of scientific accuracy every method which will increase our knowledge of diseased conditions and as a consequence enable us to give better treatment to our patients should, whenever practicable, be adopted; and I shall attempt to show later on that there are many instances of daily occurrence where individuals are supposed to be suffering from straightforward diseases and cystoscopy conclusively proves them to have an entirely different malady.

Having thus briefly referred to the technical aspect of the subject, let us now deal with some of the more common pathological conditions which are rendered evident by cystoscopy, first directing our attention to cystitis.

If one examines a bladder in the declining stage of an acute cystitis, the first thing which attracts the attention is the deep red color of the mucosa. The vessels themselves are not so evident as under normal conditions, owing to the darker surface upon which they ramify. About the neck of the organ the mucous membrane is swollen and appears velvety, with here and there more irregular projections. There may be hemorrhagic patches, and these appear as dark blotches. That they are due to blood extravasations and not to congestion is evident from the absence of vessels and by their showing no change in color when the viscus is further distended. Floating in the medium or partly attached to the wall may be seen streamers of grayish denuded epithelium or muco-pus which move about with every wave transmitted to the solution by the cystoscope or respiratory movements. The outline of the prostate or the internal meatus in the female is distinctly blurred and irregular—a

proof that the entrance to the urethra is considerably swollen and infiltrated.

In the chronic forms very similar pictures, but in a much milder form, are seen. Here, however, the most marked changes are frequently found about the neck of the bladder, and it is at this spot that the patient feels the most pain when the instrument is being passed.

A much more important subject for our purpose is ulceration of the bladder. Fenwick has described cases of simple solitary ulcer. It generally lies behind a ureteral orifice, has a sloughy base, and is about the size of a twenty-five-cent piece, and surrounded by normal bladder wall. Such an ulcer runs a very chronic course, being later followed by cystitis and renal symptoms just like a primary tuberculosis of the bladder, and, in fact, many believe them to have their origin in the tubercle bacillus. When we come to deal with true tubercular ulceration, however, there is less difference of opinion. Formerly it was doubted whether tuberculosis ever affected the bladder as a primary infection, but cystoscopy has demonstrated in conclusive form that it does, although it is by no means of common occurrence. The ulceration is usually present on the postero-superior surface. It may first show as a sharply defined dull red patch the size of a five-cent piece, and if the patient has been given methylene blue an hour or so previously these patches will be stained green, demonstrating that the epithelium has been shed. The color of the patch is due to infiltration, and here and there a curled up flake of cast-off epithelium or muco-pus may be seen attached to the patch. At this stage the surrounding bladder wall appears normal, nor is there anything suggestive of disease in the ureteral orifices. According to Pumpel, the primary lesion may show as more or less round areas about the size of pinheads of a pale yellow color and surrounded by a red areola. These certainly appear in generalized military tuberculosis with vesical involvement, but apart from that I think they are very rare indeed. It is to be noted, however, that it is the hyperemic zone surrounding the yellowish spot that is significant, as yellowish white nodules are of common enough occurrence in normal bladders, and probably due to distended glands or lymph spaces. If a bladder with primary tuberculosis be examined months later, when renal complications are present, the cystoscopic appearance is exactly similar to that found in a severe secondary infection. The following is a case in point:—

Mr. S., age 32, referred by Dr. J. M. McCormack, complained of frequency and dysuria for months. Urine contains much pus;

some blood but no albumen after filtering. Cystoscopy May 1910. Both ureteral orifices normal. On trigone just behind the internal meatus is an ulcer about the size of a five-cent piece. Bladder much congested about. On examining per rectum the prostate was nodular and tender, a similar condition being found in the right vesicula seminalis. There were old scars in the anterior triangles of the neck. Diagnosis: tubercular ulceration of the bladder, probably secondary to the same condition in the prostate.

The bladder changes in tuberculosis secondary to a renal infection vary tremendously according to the stage of the process. In a moderately severe case one would find the ureteral orifice corresponding to the affected kidney, patulous and surrounded by an area of ulceration with adherent debris. Farther forward on the trigone one will probably see another ulcer about the size of a ten-cent piece, while the trigone will be more or less edematous. The opposite ureteral orifice will probably show slight swelling of the lips, but without gross changes in its surroundings. The bladder will be contracted, and even under the influence of a general anesthetic will with difficulty hold the necessary amount of medium; and this holds after the corneal reflex has disappeared. The ureter from the affected side will be seen to emit from time to time a quantity of turbid urine, but instead of being a vigorous efflux it will simply dribble out. The opposite ureter may be overactive. Examples.—

Mr. S. (same patient referred to above). Examined May 17th, 1911, one year later. Urine now contains much albumen in addition to the pus. Cystoscopy—Right orifice very much reddened and angry-looking; lips swollen. Left fairly normal. Trigone is ulcerated but the denuded areas do not reach to the ureteral orifice, there being a normal area of bladder mucosa intervening except for the edema which extends over the trigone. The right ureter was catheterized, the specimen showing plenty of pus, albumen and some blood. Diagnosis—Tuberculosis of right kidney consecutive to the bladder involvement, and it is proposed to do a nephrectomy.

The following is a typical example of bladder tuberculosis, the primary focus being in the kidney:—

Miss H. (referred by Dr. H. B. Anderson). Age 24. Urine contained pus and occasionally some blood, with variable quantities of albumen. Chief complaint was dysuria and frequency of micturition. Cystoscopy in November 1909. Bladder holds with difficulty 4 ounces. Right orifice is holed and surrounded by extensive ulceration with adherent debris. Pus can be seen coming from the open orifice. Left opening shows slight thickening of its lips,

and it is overactive, giving forth a brisk efflux eleven times per minute. The trigone presented a most remarkable appearance towards the right side. There were mulberry-like projections, some as large as a cherry, others about the size of a pea, and of a white, gelatinous color. When examined from the side it was apparent that they were semi-translucent, and delicate blood vessels could be seen ramifying through them. Dr. Parker, the house physician, was able to demonstrate tubercle bacilli in a catheterized specimen, so that a diagnosis of tuberculous right kidney was easily made. Dr. McKeown, assisted by Dr. Wallace Scott, subsequently removed the organ, which was a typical example of the suspected lesion. The patient made a good recovery and has subsequently married. Another condition, beautifully illustrated by the same case, is what is known as bullous edema of the bladder, which takes the characters described above in the mulberry gelatinous masses. Kolischer first described this condition in the female bladder, his theory being that it was due to stasis from adjacent inflammatory processes. It is not peculiar to reno-vesico tuberculosis, as it has been reported in pyelitis following stone in the kidney. The poly-poid masses, which consist merely of very edematous mucous membrane, look very much indeed like new growths, and Fenwick relates that he has had difficulty in restraining certain surgeons from removing them with the knife.

When we come to discuss tumors of the bladder we have to deal, for all practical purposes, with only the papillomata and the carcinomata. Papillomata may be pedunculated or sessile. The former present as leaf-like processes—some long, others short—of a fawny color, with a central vessel plainly visible. The longer leaflets float about in the solution. The stalk is nearly always attached near one of the ureteral orifices. The bladder wall immediately around the stalk appears dark because it is in the shadow produced by the overhanging growth; otherwise the bladder will be normal unless in a later stage when cystitis has supervened. The initial symptom in most cases of bladder tumor is painless hematuria, carcinomata manifesting its presence in about one-third of the cases as an irritability of the viscus; and it is in these instances that the cystoscope is invaluable. If the hematuria is accompanied by albuminuria of such an extent that the blood cannot account for it the natural diagnosis is some primary renal condition, whereas the real origin of the trouble lies in a growth which is pressing upon the mouth of the ureter. It is never wise, in most instances at least, to express a very emphatic opinion as to the malignancy of a bladder neoplasm as seen by the cystoscope. The

more papillated the growth the more likely is it to be benign, while if lumpy and irregular, and especially if it is ulcerated, there is strong probability of its being malignant. The nature of the growth, however, is not the main consideration, since in eighty per cent. of the papillomata malignant tendencies are taken on, but what can be learned with more certainty is the extent of the growth and an opinion arrived at as to whether it can be successfully removed. The following is an illustrative case:—

Miss C. Aged 50. Referred by Dr. H. B. Anderson. Came complaining of hematuria. Urine contained considerable albumen at times, blood and a few pus cells. Cystoscopy—Bladder faintly congested. Right orifice normal and secreting regularly. Left seems normal in length, but the lips are thickened and of a darker color than normal. Immediately behind the left opening is a sessile tumor about five-eighths of an inch in length by rather less than one-half an inch in width. Its edge reaches to within a sixteenth of an inch of the mouth of the ureter. The growth is slightly nodular and has an incrustation of phosphates; when touched with the instrument it is seen to bleed readily. Diagnosis—Sessile carcinoma. No operation was performed and patient returned to her home.

In probably one hundred per cent. of cases of tuberculosis of the kidney the cystoscope will demonstrate some pathological condition about the ureteral orifice by the time the patient comes under observation. It is rather remarkable how many of these come complaining only of bladder trouble. In about half the cases no complaint whatever is made of renal pain, and in only one third of the instances do the patients complain of any considerable amount of kidney pain. It is probably on this account that many of these patients are for long periods treated for cystitis, and, as one would expect, without any permanent benefit. Dickenson years ago drew attention to this fact, going so far as to state that with pus in the urine and no bladder symptoms the disease is not tubercular. In the early stages the affected orifice may show nothing but slight swelling of the lips, with some blurring, yet with pyuria this is sufficient to put the operator upon his guard. Later on, when the orifice appears as a dark hole set in a whitish background, with or without ulcerated areas in the neighborhood, a dilated and atonic ureter may safely be diagnosed. Nevertheless, to dogmatize as to its cause from the appearances alone would be folly, although tubercle and calculous pyelitis are the only common causes of such a condition. An example of an early tubercular infection of the kidney is the following:—

Mr. McK. Aged 40. Referred by Dr. H. B. Anderson. Patient was sent from Western Canada to consult Dr. Anderson regarding swelling of the right testicle which had been causing trouble for some four years. Of late he had some dysuria and frequency, the urine containing some pus and a trace of albumen. Dr. G. A. Bingham removed the diseased organ, which was undoubtedly tubercular, after which I cystoscoped. Bladder was slightly congested. Right orifice normal. Left swollen, congested and pouting. A catheter inserted into left ureter drained off urine containing pus, a few blood cells, which were probably traumatic in origin, and a trace of albumen. Diagnosis—Early tubercular left kidney. No operation upon the kidney was performed.

The following case shows a much later stage of the same condition:—

Miss N. Aged 24. Referred by Dr. J. L. Killoran. Patient came to her physician some three years previously, complaining of painful micturition and great frequency. Gave no history of renal pain of any kind, and in consequence was treated for cystitis, but without any beneficial effect. Urine contained albumen and pus in abundance. Cystoscopy showed a much congested bladder, the irritability being such that considerable pain indeed was experienced in holding the necessary amount of boracic solution. Both orifices were thickened and dark red in color, with ulceration around each, especially on the right side. The diagnosis was therefore made of tuberculosis of both kidneys. No operation was advised.

Fenwick divides the ureteral appearances in stone in the kidney into three stages:

- (1) Stone in the pelvis, with dilatation of same, producing slight elongation of the lips, with congestion—furling.
- (2) Calculous pyelitis—erosion and later ulceration of the orifice, congestion of the trigone and a turbid efflux.
- (3) Entire cessation of the life of the kidney, with holing of the orifice and ropy pus emerging therefrom.

While it is true that some excellent observers maintain that it is possible from the bladder appearances to differentiate a descending from an ascending infection, I believe that the majority of cystoscopists do not make any such claim, and, in fact, recognize that it is as a rule impossible. Fenwick, for example, believes that a ureteral orifice shaped like the opening into a slipper means an ascending infection. Personally I think it of considerable importance as an evidence in favor of an ascending complication if one can note a relatively normal area between the abnormal orifice and an ulcer,

for example, on the trigone. It is generally admitted too that from the cystoscopic appearances alone one is unable to differentiate a calculous pyelitis from chronic reno-vesical tuberculosis. In fact, any irritant descending from the kidneys will, I believe, produce the erosion and congestion with elongation that are so frequently associated with calculous or tubercular pyelitis. A few days ago I was asked to catheterize the right ureter of a man who two weeks previously had sustained a rupture of the right kidney, with pronounced hematuria, and the orifice presented an appearance of what I am accustomed to regard as typical of early tubercular kidney. Curiously enough, the catheter in this instance failed to draw off any urine. It is important to note that in the severer forms of calculous pyelitis one invariably has pronounced bladder symptoms, and this too, as in tuberculosis, without any gross involvement of that viscus. It is also to be observed that in many instances as the bladder condition becomes more pronounced the renal pain subsides, and may even be forgotten. The following is an illustrative case:—

Miss McM. Aged 40. Referred by Dr. Killoran. Consulted physician because of frequency, pain and inability to hold the urine, which kept dribbling away. Was treated for months for cystitis. Had forgotten about her renal pain. The urine showed some pus and a trace only of albumen. Cystoscopy—Bladder only slightly congested. Left orifice normal. Right slightly furrowed and elongated, with darkened lips. Right ureter catheterized and pus with a mere trace of albumen was found in the collected urine. Diagnosis—Tubercle or stone in right kidney. Patient refused operation and left the hospital. She returned five months later under the care of Dr. E. E. King, who kindly allowed me to see her again on May 4th. I again examined her while she was on the table prepared for a nephrotomy, and confirmed the previous opinion. Some ten or twelve uric acid calculi were removed from a dilated pelvis, the ureter at the upper end being likewise dilated and thickened. The patient is making an excellent recovery.

In this connection I might refer briefly to a very interesting case referred by Dr. G. Silverthorn. Mr. M. Aged 42. Complained of pain in the right loin, with frequency. Urine contained abundance of pus. Cystoscopy—Bladder moderately congested and with difficulty holds the necessary four ounces. Left orifice normal. Right is holed, and at intervals long ropes of grayish white pus are seen to be pushed therefrom. These rope-like masses emerge in a spiral manner and curl up on the trigone. Diagnosis—Suppurative pyelitis, with a badly crippled kidney. Dr. Silverthorn

operated and opened a perinephritic abscess but could make out no connection with the genito-urinary tract. The patient recovered. This case is an illustration of Fenwick's third stage of calculous pyelitis, with death of the kidney as evidenced by ropy pus, but in this instance the kidney was apparently very little damaged.

The next condition to which I wish to refer is a very rare one indeed, namely, a tertiary syphilitic lesion of the kidney. The patient, Miss W., whom I saw with Dr. R. E. Hooper was a young girl, aged seventeen, who came complaining of swelling of the ankles and feet. She was admitted to Grace Hospital and the urine examined by the house surgeon from time to time was reported to contain pus and albumen. The swelling frequently extended to the back, and there was occasionally some swelling of the abdomen. Over the left sterno-clavicular region was a typical gummatous periostitis, and on questioning her, she gave a history of sore eyes lasting several weeks at the age of fourteen. On examining the urine more carefully it was found that the reported albumen was in reality an albumose, thus further strengthening the diagnosis. She was given mixed treatment and the periostitis quickly subsided. Some three weeks later I cystoscoped, finding a normal right orifice, while the left showed a congested and somewhat elongated opening with pouting lips. Both kidneys were palpable, but the left only was tender. A diagnosis of left renal syphilis was made. When the patient left the hospital some weeks subsequently she had nearly recovered.

It is common knowledge that the presence of blood in the urine may be the only symptom of either bladder or kidney disease. Probably the most common cause of symptomless hematuria of renal origin is chronic interstitial nephritis, and apparently the bleeding may in this disease come from one side only. It may be the initial symptom in tuberculosis of the kidney. In renal tumors there is usually nothing characteristic about the cystoscopic picture, catheterization being usually required to ascertain the affected side. In a case of malignant kidney which I examined, Mrs. P., under the care of Dr. McKeown, a jet of blood could be seen issuing from the left orifice, the corresponding kidney being very much enlarged. There was no operation. In another case which I saw with Dr. C. A. Page, the complaint of the patient was simply hematuria. Cystoscopy showed a normal bladder with the exception of the left orifice which was lengthened and the lips considerably swollen. A left renal lesion as the cause of the bleeding was evident, but the patient was lost sight of. Even where renal pain accompanies the hematuria one cannot be sure as to which side is

affected, for a considerable number of authentic cases are recorded in which the pain was referred to the sound side; so that a cystoscopic examination should never be omitted if one desires to be absolutely sure of the diagnosis.

As far as stone in the bladder is concerned the sound will generally be sufficient for the establishment of the diagnosis, but should the stone be lying in a diverticulum or a post-trigonal or prostatic pouch it is very apt to be missed. Again an ulcer with a thick phosphatic deposit, especially if part of a tumor, may be very deceptive to the sound, and in such cases a cystoscopic examination would reveal the true state of affairs. From the appearance of the stone an idea of its nature may be formulated, and if the crushing operation be deemed advisable the instrument can be used to see that none of the crushed pieces remain behind to form the nucleus of another calculus.

As in the case of vesical calculus, so with prostatic hypertrophy, the diagnosis being as a rule easily made without a visual examination of the bladder. In a small percentage of cases, however, the prostate as felt by rectum is not enlarged, and yet the symptoms of prostatic obstruction are present. The cause will most probably lie in an enlarged middle lobe, which can be very readily made out on cystoscopic examination. Before attempting to pass such an instrument, however, the condition of the patient should be most carefully considered with especial attention to morning nausea, and considerable thirst for such individuals often have urine of low specific gravity, and any manipulation is liable to be followed by suppression. Rumpel states that the cystoscope plays a very important practical role in the diagnosis as well as the indications for treatment of prostatic hypertrophy, nevertheless its use is much circumscribed by the difficulty which must often be met of passing the instrument without using undue force. In malignant prostates that are at all advanced, any attempt at cystoscopy would be positively harmful. Before one can obtain any knowledge as to prostatic enlargement he must become familiar with the normal prostatic pictures. These are well exemplified by Young in Keen's surgery, but it is best for each cystoscopist to make drawings of his own representing the various appearances with the beak turned in corresponding directions, with the field almost shut off and with only one fourth. If the contour deviates from the normal one can readily interpret his findings. The following is a good example: S. V., aged 60, was sent to see Dr. McKeown regarding frequency and pain with difficulty. Per rectum the prostate was only slightly enlarged. The urine contained much pus, some albumen, a few

epithelial cells, small quantity of blood and had a specific gravity of 1,018. The radiograph showed no stone. Cystoscopy—bladder wall very dark in color. Marked trabeculation. Left orifice somewhat congested, but right showed extensive ulceration with a turbid efflux. There was a middle lobe projecting into the bladder. Dr. McKeown, with the assistance of Dr. Scott, immediately opened the bladder suprapubically and removed the middle lobe projection which was about the size of a cherry. Patient can now urinate as well as ever, although he still has a small fistula above the pubis, while his general health is most satisfactory.

205 Bloor E., Toronto.

DISCUSSION.

DR. WARREN JONES, TORONTO.—Method of preparation. Cocaine sterilization 2% in bladder for four minutes, allowing some to go into the prostatic urethra.

A pillow should be placed under buttocks.

Emphasis on careful rectal examination. Palpation of lower ends of ureters.

Its value in cases of symptomless hematuria—may see the side from which the blood comes.

It is of value in tubercle of kidney where an operation is contemplated to find out if the other kidney is efficiently working.

DR. E. E. KING, TORONTO.—The cystoscope is really an instrument for the expert, not for the novice. Warned against the use of the cystoscope as a routine examination. All other means of diagnosis should be exhausted, especially in cases where ulcer or tuberculosis is suspected. Technique should be mastered before any attempt to catheterize the ureter is made. One should familiarize himself with the appearance of the normal bladder, the situation of the normal ureters, and the appearance of the mucous membrane with all degrees of distension of the bladder. Many errors are made in diagnosis by not having this knowledge, and folds of the mucous membrane are frequently mistaken for tumors. The examination cystoscope should be the one of common use, and the catheterizing one for selective cases.

DR. NAGLE.—Re discussion of value of cystoscope.

1. Agree with Dr. Jones and Dr. King that the technique of cystoscopy is extremely difficult, and where possible these examinations should be left to men who have had special training and do this work constantly. In the two large Montreal hospitals this work is done by specialists.

2. Re loss of fluid during insertion of instrument mentioned by

Dr. King, would ask him if he has seen the Brown-Berger double catheterizing instrument with obturator which admits of addition or withdrawal of fluid without removing the instrument.

GEO. EWART WILSON.—I agree with Dr. E. E. King in not advising every practicing surgeon to obtain a cystoscope, as the technique can only be gotten by careful work in the post-mortem room, and much injury thereby results. It should be an adjunct and not be used to take the place of other well recognized methods. I cannot agree with Dr. Jones, however, in regard to tubercular kidney, as one of its greatest benefits has been the early diagnosis of that condition, and in practically all cases when the patient comes to the surgeon the urethral orifice will make evident the disease.

NAUSEA.

Barnes (*Tex. St. Jr. Med.*) says that the very best treatment of nausea and vomiting following chloroform and ether anesthesia is the open-air treatment—plenty of fresh air. It should be supplied in large volume and kept moving. On the completion of the operation the patient is placed on a cot immediately, wrapped in blankets, the face always exposed to the external air and external heat applied.

ACUTE GONORRHEA.

Russell (*Med. Council*) lauds a 1 per cent. solution of thallin sulphate in all cases of acute gonorrhoea. It rapidly relieves the inflammation and changes the thick pus discharge into a thin, watery one in from one week to ten days. It should be used from four to six times a day.

CHORDEE.

Myers (*Am. Jour. Derm.*) says chordee is best overcome by the following suppositories, one to be inserted in the rectum on retiring, repeated during the night if necessary: Extracti opii, extracti hyoseyani, of each grs. v.; olei theobromati gr. 5. For five suppositories.

BRONCHO-PNEUMONIA.

Perrier of Fribourg (*La Revue Suisse de Med.*) treats broncho-pneumonia in children by injections of colloidal silver, which occurs in two forms, collargol and electrargol, the latter being the one employed and which can be given subcutaneously, intramuscularly or intravenously without danger.

*AIDS IN THE DIAGNOSIS OF SURGICAL DISEASES OF KIDNEY AND BLADDER.

BY J. K. MCGREGOR, M.D., HAMILTON, ONT.

It is my purpose to draw your attention to information which may be derived from direct methods of examination rather than from the case history.

Recent improvements in the X-ray and the cystoscope and the technic of their use, have opened up fresh fields of diagnosis, and the surgeon is given an earlier and more accurate picture of the disease to draw his conclusions from.

A modern X-ray apparatus will show a stone in the urinary tract whatever its chemical composition in 90% of cases.

It is to the cystoscope, however, we owe the most, for it is by this instrument we reach the kidney by catheterization and gain many kinds of useful information.

Numerous patterns of scopes are in use, many of them commendable. The Europeans mostly use a lens scope, and the Americans a direct vision one. It is a good plan to have both varieties on hand. The Lewis universal instrument combines the two in one instrument. Personally, I use an Elsiner and a Nitze, and find that they cover most requirements.

CYSTOSCOPY.

Preparation of Patient.—A general anesthesia is rarely needed. $\frac{1}{2}$ gr. morphia may be given hypodermically before examination. An opium suppository may be used. As local anesthesia I use alypin, $1\frac{1}{2}$ grs., several tablets being applied by an applicator to the posterior urethra. Novocaine is also used for this purpose. The meatus may require a 20% cocaine solution, and it may have to be incised.

The patient is in the recumbent position, hips slightly elevated. The parts washed and the rest covered with a sterile sheet. All instruments, catheters, etc., are boiled, except the scope, which is sterilized in a strong carbolic solution. When the instrument is introduced, which can usually be accomplished without much trouble, the water is turned on, the bladder well washed out, the window inserted, the light turned on the viscus inspected in detail. The meati are located, and calculi and foreign bodies searched for. A calculus is very easily seen and diagnosed. The same thing may

*Read at annual meeting of Ontario Medical Association. May, June, 1911.

be said of the various forms of cystitis. They become familiar after a short experience with the instrument.

The diagnosis of vesical tumors can be made by the cystoscope alone. With its aid we may accurately determine their size, location, character, number, and with a forceps snip off a piece for microscopic examination.

The commoner forms are the papillomata and the carcinomata, and a less frequent form the sarcoma. The liability of these papillomata to recur after removal has led many to believe them malignant.

Of five vesical tumors I have seen in my own practice, four have shown malignancy microscopically. Young, of Baltimore, says that 90% of vesical tumors in patients over 50 years of age are malignant. The Mayos have had nearly the same experience. They say that of the cases which are approached by the transperitoneal route, 10% have already metatasis in the liver at the time of operation.

Many authorities, however, notably Bier and Keys, of New York, consider these growths mostly benign, and during the last year have been treating them with the high frequency current.

The chancroidal tumor is fortunately uncommon, for it gives so few clinical symptoms that the surgeon always arrives too late. It shows an infiltrating base, which can be felt per rectum, and around its base necrotic areas are seen on inspection. The papilloma or carcinoma give a characteristic appearance. They may be single or double, pedunculated or warty. The villi may usually be seen to float back and forth in the water currents, and they have been said to look like "finger ends." The tumor usually bleeds when touched with the beak of the scope. Necrotic areas may be seen, and they are fresh evidences for malignancy.

If we are to believe with Mayos, Young and others that these tumors are mostly malignant, we cannot use the cystoscope too early in a case of hematuria, especially in an adult. The examination causes little inconvenience, and the information gained is accurate.

The value of meatoscopy, or the appearance of the ureteral opening, is of great value when combined with other signs. Thus tuberculosis of the corresponding kidney will likely be shown by a red swollen orifice, hanging from which may be necrotic tags. The same is true of pyelitis. The negative evidence should, however, not be taken for too much. Any blockage of the ureter will show a gaping of the meatus.

The character of the output, as observed through the scope, may

be seen to be turbid or hemorrhagic if pus or blood is present in any quantities.

Ureteral catheterization is fairly easily accomplished in a normal bladder. Difficulty may arise in cases of cystitis where the meati have been drawn out of their normal position or are hidden behind an elevated trabecula. Hemorrhage and clots may make the procedure very troublesome.

In the passage of the catheter information may be gained of the presence of complete or partial obstruction in the ureter. This is usually caused by stone. I have seen complete obstruction, however, caused by tubercular ulceration. Dr. Kelley uses wax tipped catheters for location of calculi.

Zebra catheters marked in centimeters to estimate the length of catheter passed will show an obstruction or a dilated pelvis, 32-38 centimeters being the normal length. In radiographic work the catheter carries a metal stilette. Most recent works show plates where shadows some distance from the wire stilette might have been mistaken for uretral calculi had not the stilette been used. The output of the two kidneys is collected in separate sterilized test tubes for macroscopic and microscopic appearances. Examination of the sample for T. B. should only be done by an expert.

Note should be made of the way the drops come from the catheter. When a hydronephrosis is drained the drops come fast at first and then slowly and without the little jerk with which the normal kidney ejects its contents.

The aid acquired by the forcible distension of the renal pelvis by means of a solution injected through the catheters is striking. A solution of boracic acid colored with methylene blue is used. The coloring is done to check any back flow along the outside of the catheter. The solution is slightly warmed, sterilized and introduced with a graduated sterilized syringe.

Normally the renal pelvis will contain from 7-15 c.c. According to Braasch "A renal pelvis which holds less than 3 c.c. indicates a contracted pelvis, usually stone. A pelvis containing between 25-40 c.c. indicates some nervous disorder. A pelvis containing between 50-150 c.c. indicates hydronephrosis, which can usually be relieved without a nephrectomy. A pelvis containing more than 150 c.c. will usually require a nephrectomy." The injection should be made slowly and stopped as soon as pain is felt.

The relationship between the pain produced and the pain usually felt by the patient should be carefully noted. Upon this sign alone I have seen hydronephrosis thrown out of a differential

diagnosis and operation later on reveals the true condition as a post cecal appendix.

The functional activity of the kidneys, as estimated by the examination of the secretion from the separate sides, can be accomplished by several methods, and should always be done when a nephrectomy is contemplated.

Of the methods in vogue:

Cryoscopy, or the estimation of the freezing point of the urine, has been of great interest to scientific workers. Its value is doubtful and its technique too elaborate for practical work. It has been tried and discarded by most authorities.

The injection of indigo carmine, 0.16 grams in normal salt solution, preferably into the gluteal muscle, will normally show in the urine in from 10-12 minutes. If after this time only a green color appears and is not intensified, it demonstrates some functional change in the kidney. The length of time it takes for the color to appear and the intensity of the color being the important points in the test.

The phloridizin test or the production of temporary glycosuria by means of an injection of 0.01 gram phloridizin in aqueous solution is the one most used. The urine is examined 10 minutes after the injection and then every 5 minutes. Normally sugar appears in 10 minutes. The longer it takes over this time the more should we figure on a functional derangement in the kidney of that side.

The estimation of the electrical conductivity of the urine is also too elaborate a test for practical use.

Pyelography or the radiographing of collargol injections into the ureter and renal pelvis was first suggested by Prof. Voelcher, of Heidelberg, four years ago.

The application of this scientific procedure owes its advancement to Dr. Braasch of the Mayo clinic, who has suggested its use in the various kidney lesions and also in their differentiation from extra renal conditions. (It is by courtesy of Dr. Braasch and the Drs. Mayo that I have some of their plates to show.) The patient is cystoscoped, catheterized and a 5 to 15% solution of collargol injected slowly while the radiograph is being taken. The injection is stopped as soon as pain is felt. No harm is done by the injection. In case of an operation following, union by first intention is not interfered with. A large hydronephrosis may take several ounces. It will show a large, clear shadow with a distinct margin. A pyelitis with abscesses invading the cortex will show an irregular margin to the collargol shadow. This may be seen in tubercular kidney. The various dilatations of the ureter, whether acquired or

congenital, may be easily mapped out and solitary kidney and malformations diagnosed. A stone in the pelvis will show but dimly through the collargol shadow or be altogether obliterated. Cortical calculi, however, are seen, and their relative positions definitely defined.

It is in the differentiation between renal and extra renal shadows that the most valuable information is acquired, such as intestinal tumors, hypernephromata and especially gall stones.

Even where a gall stone shadow is in such a position as to appear to be renal, stereoscopic radiographs have been used within the last year, which show the relative positions and clears up the diagnosis.

The advances along this line, together with the fact that year by year more surgeons are giving attention to the subject, has brought us to that point where we no longer excuse those lapses in urinary diagnosis which were formerly accepted or condoned as necessarily incidental to medical practice.

STAB WOUND OF HEART.

In connection with the proposed treatment of air embolism by heart puncture, as suggested by Blair and McGuigan, the case of Erdman, New York (*Med. Record*), is interesting. This was in a male of 21 years. A hole was found in the right ventricle, which would admit the gloved index finger. The patient was seen by the surgeon three and a half hours after injury, was put back to bed in thirty minutes, the time for locating wound and stitching same, and in spite of a lobar pneumonia and pneumothorax, made a good recovery.

VACCINES IN GONORRHEA AND ITS COMPLICATIONS.

Geo. R. Livermore, Memphis, says in his experience gonococcic vaccine is worthless in acute or chronic gonorrhoea. Some of the complications, however, sometimes yield promptly. He mentions epididymo-orchitis, arthritis and prostatitis. In women he has seen several cases benefitted by vaccine.

INTRAVENOUS SALINE INFUSION.

Dr. George J. Saxon (Philadelphia) states it is inconvenient to make an incision to isolate a vein, and that it is far more simple and convenient to merely introduce through the sterilized skin over a vein a needle attached to rubber tube and funnel.

***REPORT OF A CASE OF ECTOPIA VESICAE, WITH OPERATION.**

By J. B. COLERIDGE, M.D., INGERSOLL.

This case which came under observation early in the last year was one of typical extroversion of the bladder. The symphysis pubis was absent and the rounded ends of the horizontal rami of the pubic arch were plainly evident on either side. There was an angry patch of mucous membrane representing the posterior wall of the bladder, upon which could be plainly seen the openings of the two ureters, from which one could observe jets of urine being alternately ejaculated. The penis was most rudimentary and presented a condition of epispadias. The testicles were normal and healthy, as was also the scrotum.

There was no umbilicus, but there was a well marked congenital ventral hernia.

The family history of the boy was good and throws no light on his condition. The boy was sixteen years of age at the time of the operation. In the operation which I performed on January 21st, 1910, I followed the ingenious method of transplanting the ureters into the rectum by the extraperitoneal route as devised and successfully carried out by the late George Peters, of Toronto.

In the preparation of this patient I administered methylene blue for twenty-four hours previous to the operation for the purpose of coloring the urine, both at the time of operation and subsequently.

After the usual preparation of the patient and the anesthetic had been administered the sphincter ani was well stretched and the rectum washed out with boric acid solution. A sponge with a tape was tucked as high up in the bowel as possible to prevent any passage of fecal matter, and also to serve the purpose of raising the bowel toward the bladder.

The next step in the operation, as suggested by Peters, was to introduce into each of the ureters a soft rubber catheter about number five (English), having first cut off the part containing the eye, so as to allow the urine to flow freely into the catheter. This was done, but I found that despite the apparent simplicity of the procedure it proved a very tedious part of the operation, so much so that were another case to come under my care I would content myself with passing a probe into the ureters to be used as a guide

*Read at meeting of Ontario Medical Association, Niagara Falls, May-June, 1911.

while dissecting them free and introduce a large drainage tube through the anus instead of bringing the ends of the catheters out as will be later described.

Having passed the catheters into the ureters they were caught through the extreme ends of the urethral papilla with silk to prevent their slipping out.

The distal end of the ureter with goodly rosette of bladder, muscle and mucous membrane was now dissected free, the catheter or probe as above suggested serving as excellent guide to their position. The advantage of dissecting out the rosette of tissue appears to be that one is able to retain the natural opening of the ureter. After dissecting with scissors through the entire thickness of bladder wall blunt dissection was resorted to, and I found it surprisingly easy to free the lower ends of the ureters along the pelvic wall without injury to the peritoneum, which in this case never seemed to be in any danger. Both ureters having been freed for a distance of about two inches, the whole of the bladder tissue was dissected off from the perimeter where it merged into the skin to the prostate.

Once more turning my attention to the rectum I introduced an index finger, and pushing the lateral wall of the rectum toward the bladder wound I used this as a guide and completed with the free hand the deep dissection anteriorly, which proved a matter of no great difficulty.

The final step in the operation was reached—the implantation of the ureters into the rectum. Using the index finger in the bowel as a guide, the exact point at which the implantation was to be made was determined. Peters lays down three rules for guidance in this matter: 1. It must be above the internal sphincter. 2. It must be in the lateral and not in the anterior wall of the rectum to avoid kinking. 3. It must be sufficiently high to permit the ureter to project slightly, say from one-quarter to one-half an inch into the lumen of the bowel without stretching.

This point having been determined I passed a curved forceps into the rectum using the finger as a guide up to the point, and on the forceps and finger I lifted the bowel into the anterior wound, and making counter pressure from without pushed the forceps through the bowel wall. Upon opening the forceps the end of the catheter was caught and drawn carefully through the rectal wall and out the anus. The forceps being reintroduced through the same opening were made to grasp the rosette of tissue with the ureter, and this was in turn drawn into the rectum. This pro-

cedure was then repeated on the other side. The sponge plug was now withdrawn.

There seems to be no necessity to stitch the ureters in position since adhesions soon form.

In describing the operation I made mention of the possible advantage of using a probe for a guide in place of catheters on account of greater facility of introduction. This was further emphasized in my case, when on the third day I found the left catheter was not draining properly, and upon removing it it proved to be completely plugged with urinary salts.

The right one was similarly affected two days later and removed; it might be urged that the catheter is of value in observing that the draining is free from each catheter, and this of sufficient force to cause their adoption.

No attempt was made to close the abdominal wound in my case. It was firmly packed with sterile gauze and allowed to granulate. The gauze affords an excellent splint to the ureters in their new position. In fact one would be surprised at the comparatively small area left to granulate.

During the first twenty-four hours following the operation there was a very considerable free oozing from the abdominal wound which required the application of more dressings.

On the twenty-fourth of January, the day of removing the left catheter, the temperature rose to 103 and continued to rise to 104 3-5. It was irregular during the following two or three days, indicating sloughing in one of the rosettes. The discharge from the rectum being now offensive, we irrigated the rectum with boracic solution. When the temperature became normal there was a slight leak of urine through the abdominal wound mixed with pus. This continued until the pus ceased, when I had the lad anesthetized and placed on the operating table. Upon filling the rectum with milk a small amount flowed over the abdominal wound, showing that there was an opening in the bowel wall. Upon emptying the rectum and carefully examining with the finger the silk ligature which was used to stitch the catheter to the ureter was found lying loose between the rosette and the rectal wall. This was removed and the patient put back to bed, since then the leak entirely ceased. The hernia will be dealt with by another operation after the abdominal wound is entirely healed.

When one considers the terrible condition in which the patients live with constant dribbling of urine down the limbs, with their clothes saturated and their offensive odor, when it is remembered that they are practically ostracized from society, and the danger

which confronts them of septic infection of the kidneys, the real advantage of this operation becomes apparent.

In the case of this boy who can now retain his urine for a period of from three to five hours in the daytime and usually an entire night, one can easily imagine the great comfort that has accrued to him and his family by virtue of this operation. And when we pause to reflect on the safety of this procedure, as compared with older intraperitoneal methods of other operators, we cannot fail to express our appreciation of Dr. Peters, whose knowledge of anatomy and whose surgical genius was such as to enable him to devise and successfully carry out this extraperitoneal transplantation of the ureters.

THE CHOLERA SITUATION IN CANADA

No case of cholera has arrived at quarantine nor been reported in the United States since those noted in the last issue of the Public Health Reports.

On July 28 a request was addressed to Dr. Montizambert, director of public health in Canada, to apply bacteriological examination to Italian steerage passengers coming to the United States by way of Canada to determine whether such passengers were bacillus carriers. In response Dr. Montizambert stated July 29 that a ministerial order had been issued providing for bacteriological examination of all Italian steerage passengers before admission to Canada for the purpose of excluding bacillus carriers, and that a bacteriologist had been appointed at Grosse Isle quarantine station, Quebec, and that others would be appointed at Halifax and St. Johns. He also forwarded the following circular:

Circular to Quarantine Officers, the Commissioner of Customs, Ship Owners, Agents, and Others Concerned.

Office of the Director General of Public Health,
Ottawa, Canada, July 27, 1911.

Sir or Sirs,—I am directed by the honorable the Minister of Agriculture, to inform you that, in order to diminish the danger of the introduction of Asiatic cholera into this country, he has issued the following orders:

All steerage passengers arriving at ports in Canada from ports or places infected with cholera, shall be subject to bacteriological examination at the quarantine station of the port, and shall not be permitted to pass such station or to make customs entry, until it has been determined by such examination that they are not cholera-bacillus carriers. This regulation shall apply until further notice to steerage passengers from Italy coming directly or via intermediate ports.

For all cholera contacts arriving on vessels upon which cholera has occurred, the period of detention under quarantine observation shall be 10 days, unless after 5 days' detention they are found not to be cholera-bacillus carriers.

Your obedient servant,

F. MONTIZAMBERT,
Director General of Public Health.

THERAPEUTIC NOTES

ARTHRITIS DEFORMANS.

Dr. P. W. Nathan, New York (*J. A. M. A.*), divides his plan of treatment into two stages. In the first stage the patient is kept at rest, receiving nutritious diet, with doses of thymus extract. This is kept up until the disease is quiescent and makes no further progress. He uses 5-grain tablets of thymus extract, giving from two to four three times daily, either before or after meals. This must be given sometimes for months. On the disease being arrested a gradual return to active use of the affected limbs is begun. For intractable deformities tenotomy or osteotomy, if needed.

GONORRHEA.

Magian's treatment (*B. M. J.*) consists in large—three gallon—irrigations with 1:5,000 pot. permang., followed by similar washing with distilled water; then three gallons of water containing an ounce of protargol, 30 grains of chloride of gold in one quart of water and repeated irrigations with one-half per cent. protargol in the course of the next twenty-four hours. Repeat the irrigations on the second, third and fourth days with increasing strength. On the fifth day use three gallons of weak sulphate of zinc solution, and on the sixth day a similar amount of weak nitrate of silver. The cure is said to be almost constantly complete.

NICKEL SULPHATE IN MEDICINE.

Kolipinski (*Mon. Cyclop. Med. Bull.*) states the dose is $\frac{1}{2}$ to one grain after meals or food in pill, tablet or solution. It has been found potent as a germ destroyer, and has an antibactericidal power. He has used it with success in several commoner parasitic skin diseases, in a strength of one to two per cent. In acne vulgaris it is a good remedy applied locally several times a day; and it may be given internally in this disease where the patient is thin and pale. He is very enthusiastic in its use in chorea, motor disturbance with spasm and inco-ordination, chronic neuralgia of the face, tic douloureux, migraine, chronic enteritis, epilepsy, neurasthenia, etc.

GASTRIC ULCER.

Latz (*Wis. Med. Jour.*) believes that the continued use of olive oil before meals is an effective method of breaking into the vicious cycle causing hyperacidity and subsequently gastric ulcer. He reports two cases with exceptionally gratifying results.

Reviews

Principles and Practice of Dermatology. By WILLIAM ALLEN PUSEY, M.D., Professor of Dermatology, University of Illinois. Second revised edition, 1079 pages, 384 illustrations, 1 colored plate. 1911. \$6.00. New York: D. Appleton & Co. Toronto: D. T. McAinsh & Co.

On examining this book one is struck by the fact that the author has given considerable space to the principles of dermatology, namely, 167 pages. This is all very well for students in this department of medical practice, but, we are afraid, will be looked upon by the practitioner as a bit superfluous, considering that what most practitioners require is a keen, clear, concise, modern, up-to-date exposition of the subject, especially as regards diagnosis and treatment. Of course it is necessary for all this in a text-book.

But the book is a comprehensive study of the whole subject of dermatology, equalling in its make-up and exposition any now before the profession of similar character.

It is beautifully and exceedingly largely illustrated. We heartily commend it to our readers.

A Text-Book of Medical Diagnosis. By JAMES M. ANDERS, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, and L. NAPOLEON BOSTON, M.D., Adjunct Professor of Medicine, Medico-Chirurgical College, Philadelphia. Octavo of 1,195 pages, with 443 illustrations, 17 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Sole Canadian agents, The J. F. Hartz Co., Ltd., Toronto. Cloth, \$6.00 net; half morocco, \$7.50 net.

On the subject of medical diagnosis nearly every year two or more volumes are published by new writers, and this is necessary to keep pace with modern discoveries.

Dr. Anders is already known as a writer, and his excellent work is well shown in this new book. He is to be congratulated on his method of presentation of his subject and on its modern nature. Although a book of 1,195 pages, it has yet one serious fault, and that is it is too brief. If in his next edition he will explain the causes of many of the simpler physical phenomena, as his contem-

porary, Sahli, has attempted to do, he will have the most satisfactory book on the market for students to use.

His division on Nervous Diseases is not satisfactory, as, while it is descriptive of the various symptoms and pathological disturbances, yet it does not give a very good arrangement for the examination of the patient, and the psychical examination is not referred to.

However, the book is good, and, in fact, with these defects removed, is probably the best of its sort on the market; the plates are original in many respects, and the style is direct and there is no waste material. It is unnecessary to review in detail its contents, as nearly all the new tests are described and the older methods are also corrected and modernized.

Structure and Functions of the Body. A hand-book of anatomy and physiology for nurses and others desiring a practical knowledge of the subject. By ANNETTE FISKE, A.M., Graduate of the Waltham Training School for Nurses. 12 mo. of 221 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1911. Sole Canadian agents, The J. F. Hartz Co., Ltd., Toronto. Cloth, \$1.25 net.

This volume appears very suitable for those for whom it is intended, nurses and probably primary students of other professions than medicine. It is compact and easily understood.

"What to Eat and Why." By G. CARROLL SMITH, M.D., Boston, Mass. W. B. Saunders Co. Hartz Co., Toronto.

This new book on *diet* has an advantage over any similar work, in being essentially *readable*. It has not the completeness found in most of its contemporary manuals, but is entirely devoted to applied dietetics. However, it is the first book of its kind that the reviewer has enjoyed reading, and it appears to be the result of Dr. Smith's careful study of the dietetic side in his own practice.

The articles on Constipation, Typhoid Fever, Obesity and Gastric Ulcer, with the arrangement of actual meals for breakfast, luncheon and dinner, are more than usually satisfactory to the reader and make the book valuable.

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COMMENT FROM MONTH TO MONTH.

The Ontario Medical Council has met for 1911. It was the first meeting of the new Council, and, apparently, better than its predecessors gripped the situation.

The medical press and the profession at large have long and patiently called for reforms.

We may now look forward to the abolition of "defunct institution" representation, and quite likely a reduction of homeopathic and territorial representation.

Students will hail the day when the primary and intermediate examinations have been abolished.

Although two teachers on the staff of the University of Toronto Medical Department were denied admission and participation in the deliberations of the Council, on account of their dual capacity—one representing Trinity and the other Victoria—why make fish of one and fowl of another? Surely the representatives of other non-medical-teaching institutions should have had similar treatment meted out to them.

Heart Diagnosis by Electricity is something new in the domain of clinical diagnosis. "Heart stations" are now established in Johns Hopkins Hospital and in both the Presbyterian and Mt. Sinai Hospitals, New York.

The development of this method is due to Wallen, an Englishman, and to Einihoven, the Dutch physiologist. In his laboratory in 1903 the latter devised the essential feature of the new apparatus—the "string galvanometer."

By the observation of certain electrical currents, intimately related to and accompanying the different phases of the heart's action, the diagnostician is enabled to supplement greatly the sensibilities of touch, sight and hearing, employed in detecting abnormalities in the heart's action.

As the apparatus involved in the "heart stations" is extensive and intricate, its employment will be altogether confined to hospitals.

It can be employed for observation and record of excitation, pulsation, heart sounds, pulse waves, blood pressure, etc.

The Royal Commission on Tuberculosis has issued its final report. It establishes the fact that bovine tuberculosis is communicable to human beings and is especially dangerous in the case of little children.

It will be remembered that at the International Congress on Tuberculosis in London in 1901 Professor Koch made an announcement, considered authoritative by some, that human beings could not be infected from animals because he had not been able to infect animals by inoculation with the human bacillus.

The result of this pronouncement was to throw the profession into two camps, and many were the wordy warfares waged thereon. This state of uncertainty led to the appointment of the Royal Commission, which now, after a labor of ten years, has completed its observations and accordingly recorded them.

This Commission was required to find answers to the following:

1. Whether the disease in animals and man is one and the same.
2. Whether animals and man can be reciprocally infected with it.
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable or unfavorable to such transmission.

Observation implies two things: Attention to phenomena which

must be in the highest degree concentrated; record of the phenomena, which must be done photographically accurate. This the Commission proceeded to do for themselves by actual experiments, observations and records.

Within three years the first interim report was issued, namely, in 1904. It definitely established that human bacilli would produce in cattle a disease indistinguishable from bovine tuberculosis. The second showed that fatal cases of tuberculosis in human beings had been caused by the typical bovine bacillus, but all of them occurring in children, all cases of abdominal tuberculosis. Now the final report establishes that consumption in man can sometimes be traced to the bovine bacillus.

As it is generally conveyed in cow's milk, the Commission recommends administrative measures to prevent transmission, both through milk and food. So, whether affected in the udder or internally, and, therefore, invisibly, milk for consumption by young children should be absolutely prevented from reaching them.

The one point gained after the scientific labor of a decade is that we are now no longer in any doubt as to the certainty of milk spreading tuberculosis.

News Items

DR. R. A. REEVE, Toronto, has received an honorary degree from the University of Birmingham.

DR. WILFRED T. GRENFELL, the Labrador missionary, sailed for Labrador from New York on the 1st of August.

MONTREAL will consider stringent regulations looking towards the adoption of compulsory vaccination.

DR. HENRY SCANLAN, Montreal, died in that city recently. He was prominently identified with athletics.

DR. BRUCE L. RIORDAN, Toronto, is recuperating after a very prolonged illness in New London, Conn.

JUST prior to the annual meeting of the Ontario Medical Council, Dr. Gibson, the President, entertained the members at dinner at The Queen's, Toronto.

DR. L. J. BELLIVAN, a prominent citizen of Shediac, N.B., died on the 27th of July. He practised with marked success for 27 years in Shediac, and was that town's first mayor.

THE smallpox epidemic in outlying districts of Quebec which was causing considerable anxiety to the provincial board of health of that province is now said to be under control.

DR. T. G. RODDICK, we are pleased to announce, is making favorable progress after a severe illness. He is expected to leave the Royal Victoria Hospital in a few days.

DR. D. L. MCALPINE of Vancouver died the 30th of April, aged 77 years. He had practised in British Columbia since 1884, going there from London, Ontario. He was C.P.R. surgeon for a number of years.

THE death is announced of Dr. Howard M. Church, Montreal, aged thirty-nine years. For ten years the late Dr. Church was demonstrator of anatomy at McGill and was surgeon-general in the Garrison Artillery.

FOR the month of July the total deaths in Montreal numbered 1,175, and of this number 837 deaths were those of children under five years of age. This was the worst monthly record in the history of Montreal.

THE increasing use of cocaine in Montreal is shown in the annual report for 1910 of the Superintendent of Police. Since July last the police have made over 150 arrests on charges of using or selling the drug.

DR. ALLEN G. BROWN, formerly resident physician at the Sick Children's Hospital, Toronto, has been appointed resident physician at the Children's Hospital, New York, in the service of Dr. L. Emmet Holt.

A FINE rural practice and property is for sale in the County of Wentworth. This practice is worth \$3,000 annually, is long established, and further particulars as to location and terms may be had on applying to this office.

THIS year's annual meeting of the Ontario Medical Council made a definite move towards reforming itself. It is expected that at the end of the present Council in 1915 a reduction of approximately one-half of the representation will be effected.

DR. GEORGE GLIONNA, the first Italian to graduate in medicine in the province of Ontario, and who has commenced practice in Toronto, was recently tendered a banquet by his compatriots of this city. Dr. Harley Smith, the Italian Consul, acted as toastmaster.

TO THE advertisement of Macmillan and Company, 70 Bond St., Toronto, we direct the attention of our readers. No medical library can be complete without Allbutt and Rolleston's System of Medicine; and every practitioner doing surgery will heartily appreciate Kocher's Operative Surgery, an extensive review of which recently appeared in these pages.

THE following Committee have the matter of reorganization of the Ontario Medical Council in hand: Dr. Edward Ryan, Kingston; Dr. J. MacCallum, Toronto; Dr. MacColl, Belleville; Dr. E. E. King, Toronto; Dr. T. W. Vardon, Galt; Dr. James MacArthur, London; and Dr. E. A. P. Hardy, Toronto; the latter representing the Homeopathic body.

THE attention of our readers is directed to the advertisement of Brand & Co., London, England. Brand & Co. put forth some excellent products in the way of condiments, potted and canned meats, soups and essences of beef and chicken which have a world-wide reputation. Physicians will find their essences of the highest advantage for the sick-room.

HAMILTON HOSPITAL FOR THE INSANE was partially destroyed by fire on August 1st. Eight inmates perished in the burning building in spite of heroic efforts of the staff and attendants to save them. The number of inmates admitted to this institution in 1910 was 215, the largest number admitted in any previous twelve months. The hospital had a capacity of 1,220, 596 male and 624 female, and there were in residence on Oct. 1st last 1,223 patients. The daily average for the hospital for the previous year was 1,179.

THE Ontario Medical Council passed the following resolution re the inspection of schools at its recent annual meeting:

Whereas, The question of medical inspection of schools and scholars is now prominently before the peoples of various nations, and

Whereas, The Legislature of 1907 of Ontario authorized trustees to provide and pay for the dental and medical inspection of pupils as the regulations may prescribe, or, in the absence of regulations, as the board may deem proper:

Resolved, That this Council, in the interests of school children, respectfully recommend to the Minister of Education the advisability of taking a physical census of the school children, with the view of comparing the health and physical condition of children in urban and rural districts; and in the meantime further recommend the training, as in England, of the students in our model schools, normal schools and faculties of education in such a knowledge of school hygiene as will enable them to recognize common defects and diseases of children.

This Council further recognizes that while the employment of school doctors and nurses, giving all their time to medical inspec-

tion, would be the ideal plan for every municipality in the province, yet it is of the opinion that the public are not sufficiently familiar with the benefits of medical inspection to be ready to meet the very considerable expense involved in inaugurating such a comprehensive system at the present time.

THE following resolution was passed by the Metal Trades Council at its regular meeting of July 25th, 1911. Publication and editorial comment is requested. Resolution on dental clinics and medical inspection:

Whereas, Investigation of our schools has shown that the children's teeth are in a deplorable condition of neglect and decay, and

Whereas, The preservation of the teeth is essential to good health and good health essential to the enjoyment of life, and

Whereas, Owing to the poverty or neglect of parents large numbers of children suffer from an insufficiency of medical care, and

Whereas, Money spent upon the conservation of public health is well invested, the prevention of disease being much cheaper than its cure, and the maintenance of a higher standard of industrial efficiency more economical than permitting physical deterioration, to say little about the human side of this matter; therefore be it

Resolved, That the Metal Trades Council of Toronto place itself on record as favoring free medical treatment as well as free medical inspection of school children, and that, as a step in this direction, it call upon the Board of Education to establish free dental clinics in connection with the public schools, the children's teeth to be periodically examined and repaired, absolutely free of charge; this service to be rendered to all alike, without any taint of charity; and be it further

Resolved, That we approve the expenditure of any sum of money necessary for this purpose.

Copies of this resolution to be sent to the Board of Control, the Board of Education, the Medical Health Officer, the daily papers, various medical journals, the Socialist press, and numerous organizations, including the labor unions, with the request that they take the matter under consideration and communicate with us what action they take with regard thereto.

Publishers' Department

MESSRS. AUTHORS & COX, the well-known artificial limb and truss manufacturers, at 135 Church St., Toronto, wish to call the attention of the medical profession to the Colostomy Truss recently introduced by Dr. Herbert Bruce, F.R.C.S., Surgeon to Toronto General Hospital, of this city. This Truss is made of pure gum. The following is Dr. Bruce's opinion of this apparatus, and speaks for itself:

"Finding it impossible to get a suitable pad to be used by patients after colostomy, I asked Messrs. Authors & Co., of Church St., to make one for me. They have gone to a great deal of trouble in faithfully carrying out my suggestions in the matter, and have produced a pad or truss for a colostomy opening which I believe will prove in every way most satisfactory. One of the distressing features of the condition is the periodic escape of gas, depriving these patients of participation in social life. This truss or pad fits around the colostomy opening so accurately that it overcomes this difficulty, and if properly applied there is no reason why the patient should not attend a dinner party in comfort and without fear of being objectionable to others. It is quite the best colostomy pad I have seen."

THE AFTER TREATMENT OF CATARRHIAL COLDS, ETC.—The various colds, "gripes," and catarrhs that afflict the respiratory mucous membranes during the winter months, are extremely likely to leave their traces upon the general systemic vitality, in the form of a greater or lesser degree of anemia. This is especially true of those whose resistance is "below par," *i.e.*, elderly people, young, ill-nourished children, and weaklings from whatever cause. The constitutional after-treatment of respiratory disorders, among this class of patients, is usually more honored in the breach than in the observance. There can be no better routine practice than to order Pepto-Mangan (Gude) as a general tonic and reconstituent, especially when anemia is apparent. This exceedingly pleasant and ferruginous reconstructive is so distinctly palatable as to render it generally acceptable to all patients, and is so entirely free from irritant properties as to insure its ready toleration without causing constipation or disturbance of digestion.