THESIS

FOR

THE DEGREE OF M.D.

BY

G. GORE GILLON, M.B. & C.M.

WELLINGTON, N.Z.

I certify that this thesis is my own original composition & that the cases reported are true.

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Wgtn. NZ. 16/5/94

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the lateral method, or by lithotrity, than by the suprapubic operation. I have not alluded to the danger, which undoubtedly exists, of injuring the seminal ducts in an operation by the lateral method—especially in young boys—where much stretching and laceration of parts necessarily occurs. There does not, so far as I can discover, exist many data on this point of emasculation, but it is a subject that requires following up, and would necessitate reports of cases operated on when young, and their subsequent history in married life.

In connection with the above remarks, may I be permitted to quote the words of Mr. Reginald Harrison in his third Lettsomian lecture (B.M.J., Feb. 4th, 1888). He says :—

"Turning to another debatable point, I would refer to the application of lithotrity to male children. Some valuable records relating to this operation have been furnished by surgeons practising in India, amongst whom I may mention Dr. Freyer and Dr. Keegan. The latter gentleman has more particularly demonstrated the great success that may be obtained in boys by the crushing operation, and his testimony has been to a considerable extent corroborated by Mr. Waltham and other surgeons. Having regard to the great success of lithotomy in male children, I should not feel disposed to extend the crushing operation in this direction materially, except in the case of very small stones. It has, I know, been alleged that lithotomy means emasculation, but I am not aware that sufficient proof of this has been afforded. [Mr. Harrison is here speaking of LATERAL lithotomy, be it observed.] If this were proved to be an occasional and unavoidable consequence, the reason for crushing in boys would be materially strengthened. The risk of resulting impotence is thus alluded to by Langenbeck and Haemstadt, Lancet, 25th Sept., 1886 : In one series of eighteen cases operated on during boyhood and afterwards married, one husband became a "happy father." Farrant Fry mentions seven cases of emasculation in men who had been cut for stone, when young, by the perineal method. The suprapubic method in boys appears to me to be eminently *the* operation, because of the high reflexion of the peritoneum off the bladder in them, and because of the avoidance of interfering with the seminal ducts. The incision is shorter, and the parts are more superficial. Had I known of the practicability of this operation in 1879, and had I had my way, I might have saved little Thomas Sauvarin.

REPORTS OF CASES.

N.B. — With each report is drawn a picture of the stone. The actual specimens are sent in a box herewith, which please return to me.

CASE I.—C. Taylor, male, 50, fisherman; operated on in Wellington Hospital, November 15th, 1879. This was a case of paresis of the bladder and lower limbs of several years duration. He had had a catheta life for three years, and when he came into the Hospital a large stone was felt. It was diagnosed as phosphatic. I performed lithotrity four times in two months, with the assistance of Dr. Grace, using Civiale's Lithotrite. The result was that a large amount of phosphatic debris was removed, and no symptoms of stone ever recurred. He died two years ago in the Hospital, and a post mortem showed that the bladder contained no stone, although its walls were rugose and coated with slimy mucous. The debris is preserved in the Wellington Hospital.

Case II.—Thomas Sauvarin, aged 6½. This boy was admitted into the Hospital on the 7th May, 1879. I was sure I felt a stone in his bladder, and sounded him repeatedly. However, the other surgeons who attended then were equally convinced that there was no stone—only a roughened state of the bladder; and as I was only House Surgeon, and twenty-one years of age, I acquiesced in their decision. After two months of suffering the child died, and I held a post mortem. Drs. Grace, Kemp, Driver, Johnston, Harding and Kesteven were present, and sure enough there was a large stone in the bladder, one inch in diameter, and the walls of the viscus were grasping it tightly. The stone was phosphatic, and I have a half section of it now.

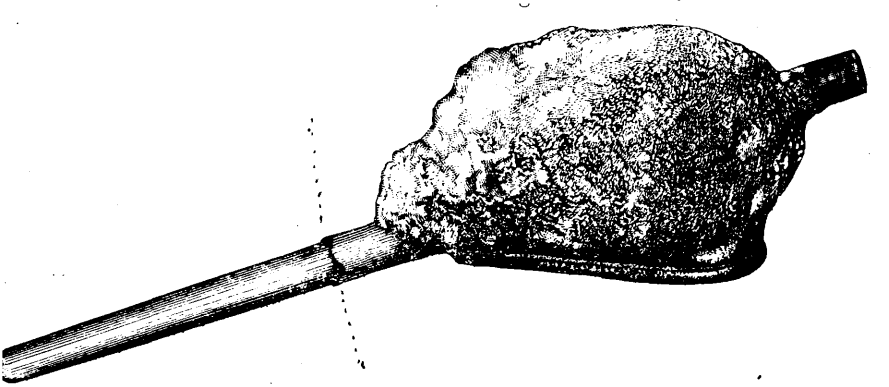
J. Sauvarin's Stone (half section).

SUPRA-PUBIC CYSTOTOMY FOR REMOVAL OF FOREIGN BODY WITH CALCULUS ATTACHED.

(Under the care of G. Gore Gillon, M.B., C.M., Hon. Visiting Surgeon, Wellington Hospital, New Zealand.)

CASE III.—Bernard Bennett, aged 43, single, carpenter, admitted March 26, 1887, complaining of pain in the hyhogastric region, and also pain when passing water, the water frequently "stopping," and causing great uneasiness. Blood has passed occasionally and badly-smelling urine. His urine contained a large quantity of pus and some triple phosphate crystals.

HISTORY.—He states that he had enjoyed fairly good health until four years ago, when he was in the Riverina district in New South Wales. He was employed on the railway works there, and the weather was very hot and the drinking water both scarce and of bad quality. In May, 1883, he noticed a small stone pass from his urethra—and again in August, 1883, he passed another small stone. In April, 1884, he felt another stone lodged in "the pipe," and to relieve himself of the agonising pain he inserted a bone penholder (about 5 inches long) into the urethra, and tried to push the stone back by this means into the bladder. He succeeded in doing this, but at the same time the pen-holder slipped up into his bladder.



B. Bennett's stone with penholder.

For some days after he suffered great pain whenever he moved about, but never consulted any doctor about it. He continued at his occupation until July, 1884, when he went to England. While there he consulted Dr. Campbell, of Gloucester, who wanted to operate on him. He would not agree to an operation, but sailed for New Zealand, where he has been ever since October, 1884, attending to his ordinary work as a carpenter.

EXAMINATION.—On examination I found that the sound struck a hard substance apparently just at the neck of the bladder. By rectal examination nothing more was made out than that there was a hard substance of ill-defined shape in the bladder. On examining externally I found a hard lump in the left iliac region, midway between the crest of the ilium and a point four inches below the umbilicus in the middle line of the abdomen. This lump was fixed, and appeared to be very close to the abdominal wall. On tapping with the end of the sound in the bladder against the foreign body, a thrill was distinctly felt by the other hand placed on the hard lump in the abdomen. This made it clear that there was continuity of structure between these two points, and it seemed very probable that one end of the pen-holder was high up in the iliac region in a pouch of the bladder, and the other end at the "neck" with the calculus most likely attached.

After a consultation with the Hon. Dr. Grace (Consulting Surgeon), and Dr. Hassell (Resident Surgeon), I decided to perform Supra-pubic Cystotomy for the following reasons :—

1. That probably the calculus had grown considerably, and was most likely attached to the foreign body, thereby making a considerable bulk.
2. The foreign body being absolutely rigid and probably encrusted, it would be useless to try and extract it "per urethram."
3. That by the "high" operation I could get a better knowledge of the existing state of things in the upper part of the bladder, and see how far and in what way the succulation of the bladder had occurred.

OPERATION.—Accordingly on the 2nd Ahril, 1887, in the presence of the Hon. Dr. Grace, Drs. Kemp, France, McIver and Hassell, I performed the operation described by Sir Henry Thompson in 1886.

The patient's pubes having been shaved, he was placed on a high operating table and fully anæsthetised.

I then inserted an empty Barnes' Bag (capable of holding 10oz. of fluid, well oiled, into the rectum well above the sphincter, and slowly injected 10oz. warm water, and turned off the stop-cock. The bladder was then injected with 8oz. warm Thompson's fluid diluted 1—6, and a piece of drainage tubing tied round the penis. By this means the outline of the bladder was clearly delimited by percussion. Owing to the distorted condition of the bladder, it inclined when distended well over to the left side; in fact, its right border only just reached the middle line of the abdomen. This somewhat complicated

matters, as in all the cases I have seen reported the bladder occupied its normal position. I now made an incision down on the linea alba about 4½ inches long, reaching from 4 inches below the umbilicus down to the pubes. Finding that the whole bulk of the bladder was on the left side, I cut through the fibres of the rectus muscle about half-an-inch to the left of the linea alba, and then with great caution proceeded to work my way through the loose fat and veins lying behind the pubes. I did this with the handle of the scalpel mainly, and a hook and probe, gradually edging towards the left side and upwards. Drs. Grace and Kemp held the muscular parts asunder with retractors, and I soon came down on the surface of the bladder, which was of a dull purplish hue and striated. I then made an incision into the bladder, and some "fluid" at once escaped. Inserting my index finger into the viscus, I found a large calculus situated at the "neck," and arising out of it I felt the pen-holder with the upper end fixed in a pouch at tne left side above. The walls of the bladder were greatly thickened and fasciculated, and I found that it would be impossible to remove the foreign body in its entirety, owing to the rapid contraction of the bladder—and then I was afraid to use the least force for fear of pushing the upper end of the pen-holder through the bladder-wall into the peritonial cavity. Having previously tested the ability of a pair of bone-forceps to break another bone pen-holder which I had brought with me, I introduced the bone-forceps into the bladder and broke the pen-holder across, just above its exit from the upper end of the calculus. I then easily extracted first the lower part with the stone attached, and then the upper end of the pen-holder with my two index fingers, using a gentle swaying motion with the last part. The calculus measured 2 inches, and the pen-holder 5 inches. The weight of the calculus and holder was 2¾oz. The calculus was composed of uric acid and triple phosphates. The bladder was then well washed out with Thompson's fluid and explored thoroughly, but nothing else was found in it.

One end of a drainage-tube was placed in the bladder, five carbolised catgut sutures put deeply in the muscular tissues, and five silver wire sutures used to unite the skin, &c., at the upper and lower ends of the wound. The drainage-tube was kept in its position in the lower half of the wound by means of sticking-plaster. The wound was dressed with iodoform, and over that carbolised oil lint, and G.P. tissue. Over all a pad of cotton wool and a scultetus bandage was fixed.

Treatment.—The patient was then removed to his ward and turned an the right side, and a morphia suppository ½gr. placed in the rectum. Ordered a grain of opium in pill every four hours.

3rd April.—Patient passed a good night—urine running freely through the tube into a vessel on the floor, the amount for the first 24 hours being 40oz. Temp. 99·4 last night, 98·6 this morning. Abdomen well greased with eucalyptol and vaseline.

4th April.—Patient turned on either side every eight hours. 45ozs. urine passed. Bladder washed out through the tube twice a

day with warm Liq. Hyd. Perchlor. (1-5000). Opium pills stopped last night. Temp. last night 99·6—this morning 98·6.

5th April.—Takes fluid nourishment well—feels quite easy—and sleeps fairly well. Temp. normal night and morning. 50ozs. urine passed. Wound looks well. Tube syringed out with Thompson's fluid twice a day.

6th April.—As bowels were confined, given an enema. Temp. from this onwards quite normal. Wound to be dressed three times a day with iodoform and carbolised oil.

11th April.—Upper part of wound healed. The silver sutures removed. Lower part still gaping, but healthy looking. Ordered Fairchild's peptonising powders for his milk, as he suffered from indigestion. Some urine passed "per urethram" to-day after drainage-tube was removed. The urine still contains a lot of pus.

16th April.—Urine to-day escaped through abdominal opening. This was caused by severe straining due to vomiting after a dose of castor oil.

17th April.—Urine comes both ways to-day. Wound granulating up from the bottom.

18th April.—Temp. 99· in the morning. Bladder to be washed out "per urethram" with a large soft catheter and warm Thompson's fluid twice a day. This was followed by a copious discharge of pus and phosphates. Ordered benzoate of ammonia.

20th April.—Temp. 99· at night for last three nights. Urine contains lots of pus. Ordered citrate of iron and ammonia.

23rd April.—Temp. 100·6 this morning from straining at stool, due to a costive motion. Constipation probably due to over distention of rectum by use of Barnes' Bag and subsequent want of power in lower bowel (?). The straining this morning forced about an ounce of urine through the old wound in the abdomen. Glycerine added to iron mixture. Also ordered cascara sagrada in 60 minim doses daily.

25th April.—To have an enema every second day. All medicines stopped. Urine much clearer. Temperature quite normal. Urine ceased to come through abdomen from this date. Wound healing well. Ordered full diet.

The patient progressed well from the 28th April. Temp. normal. Ate his food well and slept well. The temp. however rose on the 9th May to 101·6, and remained over the normal till 12th May, since which time it has been quite natural. This last rise was due, I think, to a little localised inflammation round the pouch in the bladder wall, as there is still to be felt in the left iliac region, a hard lump. The wound had been improving daily, and was quite healed on the 17th May. when the patient got up and was able to move about the ward.

Result.—The injections were stopped on the 14th May, as the urine was much clearer, and he was able to hold his water for 6 or 8 hours. Discharged cured.

Here is an illustration of stone and pen-holder, showing where I broke the latter off. vide page 5.

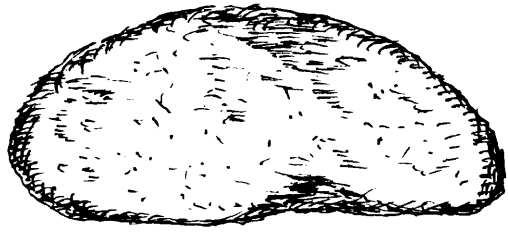
Case IV.—SUPRAPUBIC CYSTOTOMY.

(Under the care of Dr. Gore Gillon.)

Michael Michell, male, aged 35, labourer, formerly a seaman in the French navy, was admitted July 26th, 1887, suffering from pain in the penis and frequent micturition. He stated that he had lost flesh very much the last two years, and had had trouble with his urine for the last seven years.

On examination Dr. Gillon felt a stone at the neck of the bladder, its size being estimated at over an inch and a half in length. Deep suprapubic palpation, under chloroform, discovered a hard substance behind the pubes—this was evidently one end of the stone, and it appeared to be fixed firmly in that position.

On July 30th, 1887, Dr. Hassell giving chloroform, suprapubic cystotomy (as described by Petersen, of Kiel, and Sir H. Thompson) was performed by Dr. Gillon, in the presence of Drs. Grace, France, Hassell, and Robertson; a large oblong stone was extracted by means of the fingers and scoop. The peritonium was never seen. Ten ounces of Thompson's fluid (hot) were used for the bladder, and ten ounces of hot water for the rectal bag. A medium-sized Barnes' bag was used in the rectum. The stone was partially encysted in a pouch just behind the pubes, with its long axis vertical, and there was a little difficulty in extracting it. It was composed mainly of triple phosphates, and felt very hard, its length being 2¼ inches, and breadth 1¼ inch. No stitches were placed in the bladder.



M. Michell's Stone

Next morning, owing to the tube having become blocked during the night, it was found that the urine had forced its way round the tube and into the surrounding tissues. All the stitches in the abdominal muscles and skin were immediately removed, and a large drainage-tube inserted. Iodoform was used freely, and charcoal poultices applied. The bladder was washed out with Thompson's fluid, and one grain of opium given every four hours. The temperature was 99·4. Two incisions were made in the abdominal wall, drainage-tubes were inserted, and brought out at the original wound.

August 12th.—The wound looked unhealthy. The patient was turned on his face, with pillows to support the chest, pelvis, and thighs, leaving a space underneath the wounds for a vessel to catch the discharges in. The wound was syringed out every three hours with carbolic lotion (1 to 30) from below. He felt much easier in the prone position.

August 15th.—The prone position was maintained; he slept and ate with comfort. The urine came freely, and also much pus through the tubes.

On August 18th he was turned on his back again. There was still a copious discharge of pus and urine. The bladder was washed out through the penis with Thompson's fluid, and much flaky pus thus expelled from the bladder wound.

August 35th.—The patient had a rigor. Two more incisions were made in the abdominal wall, and the patient again turned on his face.

	Morning.	Evening.
August 2nd - -	99.2	99.6
„ 5th - -	100.4	101.6
„ 7th - -	99.4	100
„ 9th - -	98.6	104
„ 12th - -	—	99.2
„ 15th - -	99	99.4
„ 18th - -	99.8	100.4
„ 25th - -	103.8	10[illegible]

On September 2nd urine came through the penis for the first time without the catheter, some still coming through the wound. The patient was turned on his back again.

September 10th.—The bladder was still washed out daily. Pus still in the urine. Urine came occasionally through the wound, but generally through the penis. The temperature remained about 100.6.

On September 19th another rigor occurred, the temperature rising to 103.8. The patient was again turned with his face downwards; there was increased discharge of pus from the tubes in the left iliac region.

On September 23rd the temperature was normal night and morning, and there was very little discharge from the tubes. On October 4th the bladder-wound was quite healed. He got up on November 9th, and walked about in the ward. The urine was quite clear, and contained no pus and no albumen. He could hold his urine for six hours.

A slight discharge from one of the old deep sinuses in the abdomen on the left side continued, but this had healed by November 29th, and he was perfectly well, and gaining flesh rapidly.

Remarks by Dr. Gillon.—1. There was considerable cystitis present, due, I think, to the raw surface in the front of the bladder where the stone was lodged.

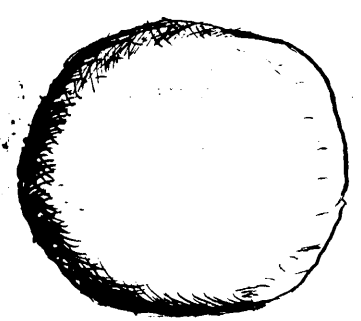
2. The drainage-tube should be constantly seen to be clear the first twenty-four hours, and if blocked, removed, and a larger rigid tube inserted. The stitches should also be all taken out, and, if necessary, the patient kept in the prone position, as recommended by Trendelenburg and Schmidtz.

3. The pus seemed to burrow its way beneath the muscular layers in fact, at one time I could get my finger between the skin and muscular layers, and underneath that I could pass a soft probe, lying deeply on what seemed to be the transversalis fascia, up as far as the spine of the left ilium, and under the conjoined tendon.

Case V.—THIRD CASE OF SUPRAPUBIC CYSTOTOMY IN WELLINGTON HOSPITAL, N.Z.

(Under the care of Dr. Gore Gillon.)

Jas. Randall, aged 46, was admitted on December 3rd, 1887, suffering from pain and frequency in passing urine. These symptoms had been present for over three years—in fact, he had been troubled more or less with his bladder for six years.



Jas. Randall's stone

December 6th—Suprapubic cystotomy was performed by Dr. Gillon, in presence of Drs. Grace, Cole, and Hassell, the steps of the operation being the same as in the other two cases previously reported. The stone measured about two inches and a quarter in diameter, and weighed an ounce. It was rounded in shape and flattened, and was composed of uric acid. A large glass drainage-tube was inserted into the bladder, and three deep and three superficial sutures used. Three feet of india-rubber gas-piping was fixed to a flange at the end of the glass tube; the piping being long enough to dip into a urinal at the side of the bed.

After-Treatment.—December 6th.—One grain of opium given at night. Temperature at 9 p.m. 100; pulse 100.

December 7th.—One grain of opium given morning and evening. Temperature at 4 a.m. 99.2, and 99 at 10 p.m. Urine running freely through drainage-tube. Pulse 84.

December 9th. — Temperature normal from this date onwards. Tube syringed out three times a day with Thompson's fluid. Opium stopped.

December 13th.—Superficial stitches removed; patient turned on one side.

December 20th.—Passed urine through penis to-day. Smaller soft india-rubber drainage-tube used; glass one discontinued.

December 21st.—Bladder syringed out with Thompson's fluid, per urethram, twice a day; urine coming both ways.

December 24th.—Tube removed from bladder wound altogether. Dressed from the bottom with carbolised oil.

December 28th.—Nearly all the urine coming per urethram; only a drop or so through the wound.

January 11th.—Patient up in the ward. Bladder still washed out daily.

January 25th—Discharged cured.

Note by Dr. Gillon.—I was called to see J. R. at his house six days after his discharge from hospital, and found that a leakage of a few drops of urine had taken place on February 1st. On inquiry, I found that J. R. had "strained" himself while in bed the previous night, and this probably accounted for the accident. I attended him for seven days, and dressed the wound from the bottom with unguent. resinæ and iodoform, and on February 7th it had quite healed. It has remained perfectly right ever since, and he can now hold his urine for five or six hours at a time. (March 25th, 1888.)

Case VI.—Thomas Wilson, aged 63, admitted Nov. 16, 1890, into my private hospital, Brougham street; occupation, carter. He had suffered from symptoms of stone in the bladder and kidneys for the last eight years. He is obliged to pass urine every ten minutes while sitting or standing, but can manage to retain his water for an hour at a time while in the recumbent position. He has passed, at different times, more than 200 small calculi, composed of oxalates. His urine is half solid with albumen. A large rough stone can be felt in the bladder, and there are evidences of both kidneys being calculous.

On the 18th November, 1890, I performed the high operation in the usual way, in the presence of Drs. France, Henry, and Ewart, and extracted an oxalate stone, which you will see is studded with large projections or spikes. It resembles somewhat the end of a war club of a South Sea Islander. Nothing could have been so ingeniously—or, I might say, teleologically—formed to produce human misery.

19th Nov.—Temperature normal. Urine coming freely through th tube.

23rd Nov.—Temperature 100.6; no pain; sleeps well.

24th Nov.—Temperature 100.8 in the morning; 101 in the evening.

25th Nov.—Temperature 100 in the morning; 100.8 in the evening. Complains of pain in the rectum; ordered enemata to be given, followed by opiate suppository.

26th Nov.—Temperature 99 a.m., and 99.6 p.m.

T. Wilson's Stone

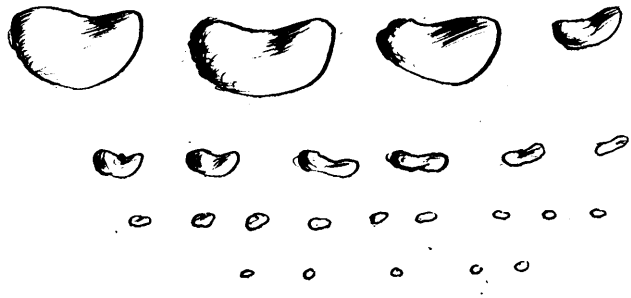
From the 27th November onward to the 13th December the temperature was normal, and health vastly improved. The wound was soundly healed on December 14th, 1890.

He is now (January 2nd, 1892) able to hold his water for six hours at a time, although he has passed seven small calculi, since the operation, from the left kidney, and one from the right kidney. The stone weighed 300 grs., and was of the kind known as mulberry calculus.

Remarks.—Now, this was as bad a case as one would wish to see. Both kidneys gave evidence of calculous affection, and the urine was half solid with albumen. Furthermore, the man was very intemperate, and would persist in drinking large quantities of ale. After the operation he put on two stone in weight, and has been at work ever since, and is working now (1894).

Case VII.—Antonio Somatti. He was a prisoner in the Wellington gaol who had already served six years on a charge of manslaughter.

I was called in to consult with Dr. Johnston, the Gaol Surgeon, on March 2nd, 1886. It was supposed to be a case of stricture, pure and simple, and on my first examination I thought it was a remarkably tough and gristly stricture. However, when I introduced my finger into the rectum I found that there was a large mass in the region of the membranous and prostatic portions of the urethra. I gave an enema, and washed the lower bowel well out, and then shaved the perineum and made a median incision into the urethra, having first introduced a steel lithotomy sound as a guide.



A. Somatti's Stones

On introducing my little finger into the urethra I found in it a large sac, packed round with calculi. These I scooped out, and they numbered 27. They were of all sizes, from that of a filbert down to that of a split pea. They were smooth and facetted, and were composed entirely of uric acid, and were very hard. I believe the man had had a stricture for some years, and behind the constricted part the urethra had bulged out, and the stones were delayed in their exit in this position. I easily passed my finger into the bladder, but no more stones were felt, nor did a sound detect any.

I do not intend in this thesis to go into the history of the high operation: Sir H. Thompson and Sir Wm. MacCormac, and Drs. Garson and Peterson have made everyone familiar with that.

I have not had any cases on young boys, so have never used stitches to the bladder, but I append a few statistics regarding the different methods of operating:—

Mayo Robson (British Medical Journal, December 11, 1886) says that the mortality of perineal lithotomy even in the best hands is 1 in 8, and recommends the universal adoption of the suprapubic method for all stones that cannot with ease be crushed, and for all cases coming under the care of those not thoroughly experienced in the use of the lithotrite.

Sir W. MacCormac mentions 33 cases of suprapubic operation in children under 15 years of age with no death. Mr. Twynam, of Sydney, has got together a series of 28 cases of 15 years of age and under with only one death. The average mortality in cases of children treated by the perineal method is 1 in 16.

MacCormac mentions three cases reported in the Deutsche Centralblatt für Chirurgie, of primary union, with external wound soundly healed within one week. These were young boys, and the bladder was sutured, and the stones were small.

Thos. Smith (Bartholomew's) reports a case of stone measuring 4½ inches x 4¼ inches, and weighing 24½oz., removed by the suprapubic method, healed soundly three months after operation. (Also Morison 25oz., and Rivington 23oz.)

Buckston Browne (British Medical Journal, 29th January, 1887) recommends (in reporting a case of removal of a fibropapilloma from the bladder by the high operation) the use of German peat to apply, wrapped up in a handkerchief, to the wound; and the wet peat is then burned and re-applied. He also points out the value of thoroughly exploring the bladder by the finger in doubtful cases of tumour.

R. W. Parker (East London Hospital for Children) points out (Lancet, 3rd July, 1886) that a catheter in the bladder interferes with the chance of primary union after suturing the bladder in children.

Professor Guyon (Annales de Maladies des Organes Genito Urinaires, vol. i., page 97) points out that the rectal bag must be of firm consistence—with no prominent seams—and of a pyriform flattened

shape. He says the suprapubic method is a safer one as regards after treatment than the more brilliant lateral operation.

Mr. Cadge points out the danger of the recurrence of stone after lothotrity—as often as 1 in 7 cases—and the great difficulty that prostatic enlargement causes.

Gardner, of Adelaide, operated on ten suprapubic cases without a death.

I have only had four cases, but have had no deaths.

Lewis Marshall (of Children's Hospital) says that out of 20 lithotomies in children 18 recovered from the lateral operation, and the twentieth died from the suprapubic operation. He recommends lithotopaxy as a substitute for both cutting operations.

There are some matters of detail in the operation that I would like to mention :—

1st. Never use a Barnes' bag, as its upper widened extremity is apt to injure the rectum. I had to get the bag I used (Petersen's) from England, as it was not obtainable in Australia or New Zealand.

2nd. Make the opening into the bladder well down in front, so as to keep well out of the way of the peritoneal fold, if after-manipulation becomes necessary in the course of treatment.

3rd. Don't use stitches in the adult, as it is very difficult to apply them properly, owing to the sudden uterus-like contraction which ensues in a few seconds after the fluid has escaped, the bladder giving the sensation to the finger of a small scooped-out orange. It also sinks down in the pelvic cavity.

4th. Avoid the frequent use of a catheter.

5th. Use the prone position and irrigation (after Trendenlenberg and Schmitz), if there is severe and foul-smelling cystitis.

As regards the case of foreign bodies in the bladder, suprapubic cystotomy is admittedly the best way of treatment. When the high operation was just beginning to be talked about, I had a case (No. III.) which caused me a great deal of anxiety. I knew that it would be useless to try and get at the large foreign body by the lateral method, and at that time no one in the Australias, so far as I knew, had yet attempted the suprapubic method.

Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, in his third Lettsomian Lecture on the surgery of the urinary organs, delivered before the Medical Society of London, January, 1888, made the following allusion to this case, as illustrative of the rule to be adopted in such predicaments :—

" Experience has already shown us that the suprapubic operation is well adapted for the removal of certain foreign bodies from the bladder more or less coated with phosphates, where it is necessary that we should be able to see as well as to feel, and direct what we are desirous of doing. Perhaps one of the best illustrations of this practice will be found in a case recently recorded by Dr. Gillon (Journal, July 30, 1887), where a penholder, over five inches in length, encrusted with phosphates, was removed from the bladder of a man through a suprapubic incision. Not only was the foreign body extracted in this

way, but the operator was enabled to satisfy himself that perforation of the bladder into the peritoneal cavity had not occurred."—(British Medical Journal, February 4, 1888, page 231.)

I have added here some notes of surgical cases which have come under my care in the Hospital during the six years I was acting as one of the Honorary Surgical Staff. The only case of death that I have been unlucky enough to have after operating was one of strangulated hernia.

Case VIII.—J. M., aged 51, admitted on 7th March, 1893. This case was admitted after the strangulation had existed twenty-four hours, and the patient had been brought down from the "bush" in a cart, and I was called up in the middle of the night to operate. I found six inches of the bowel to be gangrenous, so made an artificial anus with the two healthy ends; but the man only lived six hours, and died, I believe, from shock.

Case IX.—RADICAL CURE IN STRANGULATED HERNIA.

By G. Gore Gillon, M.B., &c., Wellington.

A. W. Lowe, male, aged 41, married, storeman, was admitted into Wellington Hospital at 11.30 a.m. on 17th August, 1892. The day before, at 3 p.m., while lifting a heavy weight, he felt something "give" in his right groin, where he had had an inguinal rupture for the last five years. He was treated at home by taxis, &c., by a medical man, till the 17th August, when he came into the Hospital. I saw him at 12 a.m., and operated at once, Dr. Ewart giving chloroform and assisting me. On opening the sac, a knuckle of bowel about 3½ inches in length was found. Its colour was nearly black, and it smelt very badly; but as it had still a glistening appearance it was decided to return it. The inner edge of the ring was incised upwards, and three inches more of bowel was drawn down, when the site of constriction was plainly seen, and the bowel above it was discovered to be healthy. I then decided to perform Mr. Bennett's modified operation. After the preliminary steps the procedure was as follows:—

The sac was carefully isolated from its many adhesions, and from the fibres of the spermatic cord, below the external ring. It was then opened and the bowel returned; then the sac was cut through just below the external ring. The lower part of the sac was left undisturbed in the scrotum. The proximal part was now separated from adhesions as high up as the internal ring. I then took a long pile needle and inserted it into the abdominal wall, through skin and everything, ¾-inch above the external ring; and with the index finger of the left hand pushed into the abdominal cavity, I soon felt the point of the introduced needle. The point of the needle was then pushed downwards, guided by my left forefinger, inside the cut sac, and made to pierce the abdominal wall on its exit half-an-inch from the edge of the superficial incision. The needle's eye was then threaded with stout catgut, and was withdrawn the way it came, taking one end of the suture with it. The needle was now unthreaded, and made to

enter the abdominal wall as before, only half-an-inch to the inside of its previous entrance, and follow the same course, only that it emerged opposite to where it did before—*i.e.*, on the inner wall of the cut sac, and half-an-inch to the inside of the edge of the superficial incision. The needle this time was threaded with the lower end of the catgut suture and returned with it; it was then unthreaded, thus leaving a loop of catgut hanging loosely over the cut edge of the sac, and the two ends of the ligature free on the surface of the abdomen. The open end of the sac was then closed by small catgut stitches, close to where the thick ligatures had entered its walls. The end of the sac was then pushed well up into the abdomen by the point of the finger, and the thick ligatures drawn tight on the surface of the abdomen, and tied there. By this means the sac was invaginated, and its end was fixed firmly up against the peritoneal surface of the abdomen, some distance above the internal ring, thus insuring the adhesion of "peritoneum to peritoneum." The margins of the canal were then brought together by stout silk sutures, and a drainage-tube placed in the scrotal part of the wound, and a dry dressing of boracic acid, gauze, and wood wool pad applied.

The patient made an excellent recovery, and was discharged cured on the 11th October, 1892. His temperature only rose to 100 deg. on four occasions, but that was clearly due to the long-continued sloughing of the "cast off" part of the sac in the scrotal pouch. The other parts healed by first intention, and gave no anxiety whatsoever, the catgut sutures being all absorbed. I saw him on the 30th November, 1892, and found that the parts on the left side were firm, and there was no sign there of any return of the rupture. He wears no truss. But on examining the other side (the left), I found a very small hernial protrusion, for which I have given him a truss for the present.

Case X.—Chas. French, aged 25, cadet on a sheep station, admitted on 6th January, 1894. He has a congenital inguinal hernia, which has got larger in the last two years, owing to riding a good deal and playing tennis. I operated on him in the same way by Mr. Bennett's method, on the 12th January, 1894, Dr. Ewart giving chloroform. He recovered without a bad symptom, and was discharged cured on the 6th February, 1884, with instructions to wear a truss for six months, and not to ride for a year.

Case XI.—Mrs. Brown, aged 33. This was a case of femoral hernia, which came down suddenly while she was washing. She was brought to the Hospital in a fainting condition within two hours, and I operated at once, dividing the constricted ring upwards and returning the bowel. I then sewed the walls of the ring together with strong silk, and put a few horsehair stitches into the superficial parts, and applied dry dressing. The wound did not heal by first intention, but suppurated. It was fourteen days healing, but the resulting cicatrix was firm and thick, and six years afterwards the hernia had not returned.

Case XII.—HYDRONEPHROSIS OF KIDNEY OPERATION.

C. M. King, male, aged 31, paperhanger's overseer, came to me on June 25th, 1892, complaining of pain in the left loin and abdomen, and a feeling that he might fall if he were up on a ladder. On examination I felt a large rounded swelling in the left lumbar region, extending half way to the umbilicus; it appeared to be fluctuating, but very tense. His urine was normal; temp. 100; pulse 90, and very weak. He looked very pale and thin. The following history was elicited:—

C. M. King
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In 1885, while in Wanganui, he felt occasional acute pains in the left loin, with vomiting and retention of urine for half a day or so, and then he would pass a large quantity of water, which was sometimes discoloured. On one of these occasions his doctor sent him to bed for four months. He was never sounded for stone nor catheterised. For 6½ years he went about his work, suffering from headache (which he put down to "biliousness"), and occasional sharp attacks of pain in the left side. In May, 1892, he consulted a doctor for pain in the side and sickness, and was then told he had a stone in the kidney. He worked on for another month, and then came to see me.

The same day I saw him I sent him to bed and aspirated 1½ quarts of purulent, reddish fluid, with a faintly urinous smell. The abscess re-filled rapidly, and on July 3rd he was admitted into the Hospital. On the 7th July, in the presence of most of the Hospital staff, I made an incision into the lumbar region and opened the cyst, when a large quantity of reddish fluid escaped. I got my hand into the cavity, and after some searching discovered a small uric acid calculus at the lower part, probably where the ureter had once opened into the pelvis of the kidney. The only trace of tissue resembling kidney structure was found on the upper part of the cyst, and on drawing this part to the external wound, it was seen to resemble an inch or so of soft black granulations. No opening could be found anywhere leading into a ureter. A drainage tube was inserted, and the patient recovered without a bad symptom, and with no rise of temperature. The discharge appeared to be ordinary pus, and there was never any evidence of urine in it. He was discharged cured on September 3rd, 1892, and has put on over a stone in weight since.

This case seems remarkable from the absence of any great inconvenience for so many years, and from the fact of the complete destruction of one kidney going on while the man was engaged in hard work.

Case XIII.—Mrs. Callaghan, aged 32, admitted on 26th June, 1893. This was an undoubted case of epithelioma of the cervix uteri. The symptoms had lasted one year, and there was a foul, granulating surface. Felt a very offensive discharge, and she was very anæmic. Dr. Ewart gave chloroform, and Dr. Fell was present. As there seemed to be no implication of the glands in the groin, and no signs of the ovaries or tubes being affected, and the fundus appeared to be healthy, I did the operation of partial vaginal hysterectomy. Long

compression forceps were placed on the uterine arteries on either side, and the mucous membrane dissected up carefully, further on the front and back than at the sides. By a series of cuts inwards and upwards, and with a sound kept in the uterus, I carefully worked inwards until I reached the sound. By this means the whole of the affected mass was removed, and a mere cap, as it were, of the fundus uteri remained. She made an excellent recovery, and put on flesh rapidly and improved in colour. At this date (20th April, 1894) she is still in excellent health, and there is, so far, no sign of recurrence.

Prior to operating, Dr. Ewart, the Resident Surgeon, kindly examined the debris removed by curretting under the microscope, and cylindrical epitheliomatous formation was observed.

Case XIV.—Mrs. G., aged 21, had suffered for three years from more or less coustant pain in the pelvic region and menorrhagia; also dyspareunia and a thick yellowish discharge from the uterus. Had had a child three years ago, and was married at the age of 16. She was very pale, thin, and anæmic. On the 13th August, 1893, I operated in the presence of the hospital staff, and found both tubes tortuous and much swollen, and their ends agglutinated to the deep parts in the pelvis. The ovaries were apparently normal. After some difficulty in separating numerous adhesions, I excised both sets of uterine appendages, and she made an uninterrupted recovery — the temperature reaching 99.6 on two occusions only. The abdominal wound showed a tendency to gape at its lower edge, so a dressing of iodoform and glycerine was used, and the parts strapped firmly together, and left for four days. The ultimate cicatrix was a mere line, and the patient was discharged 26 days afterwards, wearing an abdominal belt. The pain and discharge have both disappeared, and she looks very well.

Case XV.—Miss H., aged 18, admitted March 23rd, 1893, suffering from an enlarged abdomen, due to a tumour. She said the swelling had been there since October 1892, and that it had got suddenly smaller at Christmas time, when she was leaning over the ballusters of a staircase; but that after Christmas it had got gradually larger. Her menses were not properly regular —generally a week over the time. There was not ballottement, and no milk in the breasts; the os uteri was small, and the cervix not softened. After keeping her under observation till the 13th April, I opened the abdomen, and found a large dermoid cyst growing from the right ovary. The adhesions were few, elongated, and easily separated. The contents of the cyst consisted of a large quantity of thin fluid and gelatinous masses, large pieces of cartilaginous material, several teeth, and large wisps of dark hair. The hair was arranged in "nests." She made an excellent recovery. The temperature remained normal throughout, and the resulting scar was merely normal; and she was discharged cured on the 24th May, 1893, wearing an abdominal belt. She has been regular in her periods since then.

Case XVI.—Mrs. J., aged 36, suffered from ovarian tumour of the right side. This was excised on the 16th August, 1893, and was remarkable for the very long number of adhesions to bowel and omentum and bladder—most of which required deligation. The left ovary was slightly enlarged, and covered with eight small pellucid cysts, so it also was removed with its tube. Tait's Staffordshire knot was used, but the silk broke thee times, and then I used a very thick ligature, and tied it once round the stump, which was fortunately effectual in stopping the bleeding. During this part of the operation, to give myself plenty of room to see what I was doing I lifted several feet of bowel out of the wound, and protected them by warm damp cloths. They were out of the abdomen for fully half-an-hour. After stopping the bleeding I noticed a small dark coloured cyst growing from the broad ligament, and this I ligatured and removed. It was full of bright red blood, and had very thin walls. I could discover no structure inside it. This patient also recovered without a bad symptom. The abdominal cicatrix was very thin and firm, and she was discharged cured on the 16th September, 1893. The cyst was unilocular.

Case XVII.—LUMBAR COLOTOMY.

J. S., aged 59, carter, consulted me on June 18th, 1888, for great pain on defæcation and frequency of stools, and he had been ill for three years and a half. On June 19th, he entered the Private Hospital in College Street; and, on examination, I found a large hard mass about two inches and a half up the rectum, almost closing the passage, the point of my finger touching a ragged ulcerated surface. The glands in the right groin were hard and prominent, especially one two inches below the fold of the groin. There was also a callous-looking ulcer round the skin outside the anus. He passed on an average eighteen to twenty-four stools in the twenty-four hours, the motions being loose, yellow, and scanty, and mixed with bloody mucus and having a very putrid smell. He was quite unable to sit, and had to lie on one side, or across cushions, in the prone position. His sufferings were extreme. Urine normal. On June 25th, I had a consultation with Dr. Grace, and the patient agreed to my proposal to have colotomy performed.

Operation.—On June 30th, I performed left lumbar colotomy in presence of Drs. Henry and Grace. The bowel being inflated with air, I had no difficulty in finding the colon, remembering Allingham's direction about its relation to the kidney; when I had drawn the bowel well out to the level of the skin, I stitched it there with two silk sutures. The primary incision in the skin was six inches and a half long and oblique, and the skin was cut lower down than the soft parts, so as to give a valvular opening, as Cripps recommends. Previous to the operation he had had one drachm of nepenthe.

The patient did well, and on July 12th he got up and went for a walk, the wound being soundly healed and very little cicatricial tissue about it. He sleeps very well. On July 18th, he had gained 6lbs. in weight, being 10st. 12lbs. Small bits of fæces came occasionally

through the natural anus, but only at intervals. To obviate this, I had an ivory plug (made out of a billiard ball) curved upwards, so as to follow the natural curve. This he wears attached to an elastic belt round the waist.

Five weeks after the operation, he returned to his home on the West Coast, 300 miles by sea, and he wrote me on September 12th, saying: "I now weigh 11st. 12lbs, an increase of 20lbs. since the operation. My appetite is very good. I wear the plug night and day, and find it comfortable The ulcer at the bottom is still troublesome." On November 13th, he writes: "My system seems to be in good order, and the art. anus acts splendid (*sic*). I only use the plug a short time once per day. I now weigh 12st. 5lbs., which is heavier than I have been for three years and a half."

February 1st, 1889. I have just received a letter from Dr. S., his family medical attendant, in which I am informed that the patient is getting on well with the artificial anus, but that his testicles are somewhat swollen. He still weighs 12st. 5lbs., and it is now eight months since the operation. I will report the ultimate result of the case. He died in August, 1889, from malignant disease of the testicles.

Case XVIII.—THE ALEXANDER-ADAMS OPERATION FOR RETROFLEXION OF THE UTERUS.

Mrs. W., aged 27, multipara, having had three pairs of twins, consulted me in August, 1891. She complained of constant pains in the back, and inability to perform her domestic duties, or to walk the least distance.

She had suffered in this way for about six years, and was at times very hysterical—indeed, almost maniacal. I found that she had an acutely retroflexed uterus, and that the left ovary was tender to the touch and slightly enlarged. After replacing the uterus by the sound, I tried postural treatment for three weeks, and pessaries of different kinds; but as soon as the patient lay on her back or got up the retroflexion returned as badly as ever.

On October 12th, Dr. Fell saw her with me, as I wished to try the effect of shortening the round ligaments. Before proceeding to do this, however, we thought best to dilate the uterus. This was done by means of Hegar's dilators, and the interior of the womb was swabbed out with strong carbolic acid. For three days the retroflexion was absent, but then returned as before.

On the 12th November, Drs. Rawson and Ewart assisting me, I performed the Alexander-Adams operation, pulling down about two inches of round ligament, and fixing the uterus firmly in its normal position.

She recovered without a bad symptom, her uterus has kept right ever since, and she is able to walk a mile without any inconvenience. The result could not have been more satisfactory, and one is at a loss to understand why Hart and Barbour so condemn this operation.

While I was in Sydney and Melbourne, in 1889, I witnessed several cases of retroflexion treated by this method, and have been since informed that the results were all favourable.

As I leave for England in a few days for the benefit of my health, I regret I have not time to record any more cases; suffice it to say that altogether in the six years I acted as Honorary Surgeon to the Wellington Hospital I have operated on over 80 cases of major degree, not including minor operations, and the only death I have had, traceable in any way to the effects of the operation, was that one of strangulated hernia already alluded to. I ascribe this good result almost entirely to the scrupulous and minute attention to personal cleanliness, and strict asepsis, observed both by myself, as operator, and by my assistants and nurses. I made it a rule to wash my hands and arms with Condy's fluid, then perchloride lotion, and then carbolic lotion (1 to 30), and finally dipped hands and arms in perchloride lotion.

G. GORE GILLON, J.P., M.B., and C.M. (Commendation).

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Dr. Gillon was elected a Member of the British Medical Association in 1887, being proposed by Professor W. T. Gairdner and seconded by Dr. S. Gemmell, both of Glasgow University; and is a Member of the New Zealand Medical Association. He was the first New Zealander to go "Home" to study at Glasgow University, where he matriculated at the age of 17, taking his M.B. and C.M. at the age of 21. He was educated at the Otago High School, New Zealand.

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