The campaign on the early surgical treatment of acute abdominal emergencies started and persistently carried on by Professor Rutherford Morison has certainly borne good fruit with us, and that surgeon deserves the greatest credit for his work.

During the last ten years there have been treated in the wards of the Newcastle-upon-Tyne Royal Infirmary a total of 3,951 cases of appendicitis with an over all mortality of 5.41 per cent. Naturally I am especially interested in my own figures, and Table II sets out the total number of cases operated upon by me since I first commenced to practise surgery, and up to the end of last year.

My practice is to operate on practically every case of appendicitis that comes under my care. For a time cases of general septic peritonitis with distension were not operated upon, but I now nearly always make a small incision or incisions for drainage only, the removal of the appendix being left to a later date. In cases that are in an extremely toxic state when first seen I may deem it wise to wait for twenty-four hours, until the bowels have been got to move, and until a greater or lesser amount of saline has been absorbed, and in cases of localized abscess I may defer the operation for from twelve to twenty-four hours as a matter of convenience. In all other cases the operation is carried out as soon as possible.

I attach great importance to the use of ether administered by the open method; to a proper exposure by the oblique muscle cutting incision of Rutherford Morison;¹ to saline given by intermittent rectal injection or by subcutaneous infusion, and to the early evacuation of the bowels. In almost every case the appendix is removed as an essential part of the operation. As junior assistant surgeon up till a few months ago I was not in a position to hand patients on, and the tables therefore show the results in a consecutive series of unselected cases of appendicitis extending over a period of about a dozen years.

TABLE II.

Year.	Total Cases.	Deaths.	Percentage.
Previous to 1907	66*	8	12.00
1907	68	8	11.76
1908	89	7	7.86
1909	102	3	2.94
1910	107	2	1.86
1911	131	5	3.81
1912	118	2	1.69
1913	143	7	4.89
1914	181	5	2.76
Total	1,005	47	4.67

* The figures for this year were published in a letter in the *BRITISH MEDICAL JOURNAL*, in the issue of July 20th, 1912, and the total number of cases for this period given as 64. Since then the figures have been carefully scrutinized, necessitating the addition of 2 cases.

But the most interesting statistics are those furnished by grouping the cases, as in Table III, for it shows that when cases of acute appendicitis are operated upon before infection of the peritoneum has become extensive (Groups 1, 2, and 3—389 cases with 10 deaths) it is possible to keep the mortality as low as 2.57 per cent.

TABLE III.

	Cases.	Deaths.	Percentage.
Group 1 Acute appendicitis without peritonitis	62	0	—
Group 2 Acute appendicitis with localized peritonitis	219	3	1.36
Group 3 Acute appendicitis with flank or pelvic peritonitis or both	108	7	6.48
Group 4 Acute appendicitis with diffuse peritonitis	57	19	33.0
Group 5 Appendicitis with residual abscess	49	5	10.20
Group 6 Appendicitis with primary localized abscess	241	9	3.77
Group 7 Appendicitis—interval removal	257	0	—
Group 8 Appendicitis with primary complications	12	4	33.0
Total	1,005	47	4.67

In the above table the cases in Group 8 include such complications as intestinal obstruction and pylephlebitis. In Groups 3, 4, 5, and 6 a considerable number of secondary operations have been necessary for pelvic or other secondary abscesses, intestinal obstruction, faecal fistula, secondary haemorrhage, and empyema. Other complications, as pneumonia and acetonuria, have also occurred, and as every kind of case is included the list shows the mortality of appendicitis together with its complications. Although each case is only counted once some of the worst varieties have necessitated multiple operations. The following are typical examples:

R. C. (Reg. No. 3744), aged 16, Group 5, was admitted to hospital on September 2nd, 1910, with a pelvic abscess, the result of a localizing general peritonitis. This was opened per rectum on the day of admission. On September 6th a large abscess in the hepatic pouch was incised. The boy slowly improved, though a faecal fistula developed through the incision in the right iliac fossa. On October 12th he developed acute intestinal obstruction necessitating a median laparotomy below the umbilicus, a band being found and divided. On November 4th the appendix was removed and a large hole in the caecum closed, but it was not until January 4th, 1911, that he was well enough to be sent home.

J. F. (Reg. No. 5733), aged 44, Group 5, was admitted very ill with a large abscess in the right iliac fossa, the result of a localizing general peritonitis. On May 11th the abscess was opened and drained. On the 23rd a large subphrenic collection was similarly dealt with, and on the 31st an empyema on the right side required incision. After this operation he did very well for a time, but on June 3rd acute intestinal obstruction developed necessitating laparotomy. When recovery seemed almost assured pylephlebitis supervened and led to the death of the patient on July 19th.

In surgery, as in common affairs of life, ideals are necessary, and so far as my experience goes the higher they have been the greater the benefits conferred. Nothing is worse than an attitude of complacency, and the profession must not be content with a mortality of even 5 per cent. in appendicitis. When this disease is always treated by the early surgical interference which it demands there is no reason why the mortality ought not to be as low as the 1 or 2 per cent. represented by operations conducted in the earliest stages—nay, barring occasional accidents, mortality from this disease might nearly vanish if the profession and public both realized that the only treatment is by operation.

REFERENCE.

¹ *Lancet*, February 23rd, 1901.

A CASE OF CEREBRO-SPINAL FEVER SIMULATING ACUTE NEPHRITIS WITH URAEMIC CONVULSIONS.

BY

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AND

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THE following case is interesting in that at first it closely simulated acute nephritis, and in addition had a curious onset. The case was the only one that occurred in the particular area occupied by the unit.

The medical officer was called at noon to see Private H. in his billet. He said that at 4 a.m. he had awakened with "pain in the calves" and both loins, and found he had lost the use of his legs to the extent that he could not stand up. On the arrival of the medical officer he woke up from a slumber. The expression of his face during the beginning of his account of his illness indicated that very little would have produced a flow of tears. He was distinctly deaf. A history of a slight cold in the head for a few days suggested that his unusual deafness might have been due to catarrh extending up the Eustachian tubes, but the absence of pain or noises or sensation of fullness in the ears, coupled with the subsequent history, make it more than likely that this was due to the commencing meningitis. He said that his slight cough caused intense pain in the head each time, but that otherwise he had no headache though his head felt "heavy." He had not passed urine since the previous afternoon, and complained of great thirst. His face was distinctly puffy all over, including the eyelids. The non-commissioned officer present informed the medical officer that this was so marked that he could scarcely recognize him. The man was a moderate beer drinker. He complained of no sore throat and had not vomited; the temperature was 101° F. and the pulse 105; the tongue looked very dry, and was coated with a dirty brown fur; there was no rash. Nothing of note was found in

the chest or abdomen, and no sign of fluid in either. Neither tenderness nor swelling could be made out in the kidney regions, and there was no oedema anywhere apart from the puffiness of the face. The urine contained a considerable cloud of albumin, and was of a strong colour. The patient had no photophobia, or double vision, or squint, and his mentality was practically normal except for tardiness. While lying down he could lift his legs to any position, and was able to turn over quite well, and to support himself half recumbent on his right side while micturating. He was also able to stand up when supported on one side but seemed very nervous about it. The knee-jerks were slightly less brisk than normal; there was marked tenderness of both calves on being grasped moderately firmly, as in alcoholic neuritis, but no evidence of numbness or anaesthesia. On the possibility of the case being cerebro-spinal meningitis the medical officer examined for Kernig's sign in the usual way by trying to fully extend the leg on the thigh after first bending the thigh to a right angle with the trunk. On neither side could the leg be completely extended owing to rigidity of the calf muscles and intense pain produced in them. According to the patient's own statement, no pain was produced in the muscles of the back of the thigh as is described in a typical Kernig's sign.

The patient was removed, with a temporary diagnosis of possible acute nephritis with neuritis of the legs, to the field ambulance, where the medical officer, at 4 p.m., found the temperature to be 100.8° F. The medical officer agreed with the possible diagnosis of acute nephritis, and the subsequent watching of the case gave neither he nor his colleagues any reason to change their opinion up to the time (forty hours later) when the patient was transferred to the motor conveyance. He was given calomel gr. iv, aspirin gr. x, and a slight diet of fluids. The temperature at 10 p.m. was 101.4° F., and the cheeks were flushed. During the next day the temperature, taken every four hours, was 100.8° F., 101.4° F., 101.3° F., 99.4° F. About 6 a.m. the patient vomited, and then gradually became quite unconscious and developed fits. At 10 a.m. the medical officer found him very restless, struggling convulsively, and unconscious. His condition was such as could be explained by uraemia. The face had now become pale as well as puffy, and there was slight oedema of the ankles; purpuric spots had developed on the forearms and lower limbs. The reflexes were normal. The pulse was rapid, but not of high tension. He was ordered hot packs, 1 pint saline per rectum every four hours, and a dose of pilocarpin gr. ½.

By 8 p.m. the patient's general condition had improved a good deal, and he had ceased struggling. There was no definite head retraction. As no urine had been passed since admission a catheter was used, and 4 ounces of urine were withdrawn; it was almost solid with albumin on boiling. The treatment was continued as before, with caffeine citrate gr. vi every four hours in addition, and another dose of pilocarpin gr. ½.

On the morning of the third day the temperature was 100.2° F., and pulse 68. His general condition had further improved, and he had recovered consciousness to the extent that he would protrude his tongue on loud demand; 3½ ounces of urine were withdrawn by catheter, making a total of 7½ ounces for over two and a half days. A spinal puncture two or three hours later revealed cerebro-spinal meningitis.

Points of interest in the case are the early deafness and paresis of the legs, with exceptional type of Kernig's sign and marked tenderness of the calves; the marked puffiness of the face, the marked urinary changes, and the improvement under treatment for acute nephritis.

ACUTE GONORRHOEA TREATED BY ELECTROLYSIS.

By CHARLES RUSS, M.B.LOND., M.R.C.S.ENG.

ON account of the prevalence of gonorrhoea in the military Continental hospitals I have been requested to publish this article. Before doing so it was my intention to complete the treatment of 100 cases, but in order that its advantages might be available for the allied forces I bring forward a study of 28 private and hospital cases of gonorrhoea under my care treated by electrolysis.

Hitherto the treatment of acute gonorrhoea has been unsatisfactory and that of chronic gonorrhoea more so. Remembering that chronic cases were once acute I decided to work at the disease in its early stage. If the disease can be promptly cured we shall see few (if any) of the depressing pictures which occur so often in the chronic stages. I have already published sufficient on the treatment of suppuration by electrolysis,¹ and shall therefore avoid repetition of the experimental and other work on which its principles are founded. During 1914, by the courtesy and interest of Mr. J. E. Lane, I had access to the patients in the wards of the Lock Hospital, Dean Street, W. Patients are only warded if they suffer from some complication of gonorrhoea—for example, arthritis,

ophthalmia, epididymitis—which hinders their occupation. After an encouraging study of some of those cases, all chronic and with complications, I decided, as above-mentioned, to deal next with the acute disease. During the last few months the out-patients' staff have favoured me with uncomplicated cases of acute gonorrhoea—the discharge not having existed more than fourteen days—and I have treated these patients in an annexe of the hospital out-patient department.

The Method.

The patient is made to retain urine for a few hours and the rate of discharge is visible on a disc of cotton-wool retained within the prepuce. A Gram-stained smear is made of the discharge at the outset of the treatment. The patient is directed to pass about half of the urine he is retaining, and keep the rest back. This preliminary urination washes the urethra from behind and is the only lavage I employ. He then reclines on the couch and a platinized catheter is lubricated and passed gently down to the compressor urethrae. This catheter is quite smooth, has numerous perforations, and it is furnished with a stylet of platinum wire and a rubber collar which just enters the meatus. I also use rubber perforated catheters. A lint-covered pad lined by a flexible metallic core is wrung out in warm saline and applied to the perineum, scrotum, and root of the penis. A 2 per cent. solution of sodium iodide is then gently injected into the catheter. The rubber collar prevents its flowing away between the instrument and the urethra. The pad is connected to the negative, and the stylet (within the catheter) to the positive pole of the battery. A current of one to two milliamperes is passed for twenty-five minutes and the catheter is kept full of the solution from time to time by means of a syringe. The current being turned off, the catheter is withdrawn and placed in a glass of water. After the first few treatments the perforations in the catheter will be seen choked with masses of yellowish muco-pus which are laden with gonococci and these have been drawn from the urethra. On shaking the catheter in the water, most of these masses become detached from the instrument and soon settle at the bottom of the vessel. The patient now passes the rest of the urine, and similar masses of muco-pus will be seen in it. As the patient progresses this harvest diminishes, and when the discharge has ceased there is nothing visible in the perforations at the end of such treatment.

I have applied this treatment every day to these cases of acute gonorrhoea, and the signs of progress are: (1) The abolition of the scalding during urination. (2) Reduction and disappearance of the discharge. The amount of the discharge can be visibly measured by comparison of the patient's disc of wool from day to day, provided the number of hours' abstinence from urination is the same. When the discharge has ceased the battery is applied every other day, and after three to six more applications the urine is free from purulent threads. The treatment is painless, and apparently produces no bad effects. Provided the patient receives this treatment whilst avoiding alcohol and other abuse, I expect to cure him in three to four weeks. The present prospect is that this period will become shorter after more extended application.

In comparing this with other treatments I have noticed the following advantages:

1. Its effect is more certain than by other methods.
2. After arrest of the discharge, the threads and flakes disappear more rapidly from the urine.
3. There is marked absence of complications.
4. It is a powerful controller of gonorrhoea, to be administered by qualified experts. This is a desirable contrast to the casual or over-zealous self-administration of some treatments which is so frequently permitted in this disease.

REFERENCE.

¹ Royal Society's *Proceedings*, 1909; *Lancet*, 1909; *Lancet*, 1914 (February and October).

M. LOUTREUIL, a French engineer, has left £284,000 for the promotion of the advancement of science. The sum is distributed as follows: The Académie des Sciences, £140,000; the University of Paris, "in aid of scientific work in every direction," £100,000; to the fund for scientific research, £40,000; the Pasteur Institute, £4,000.