This procedure is not over-difficult, and can be carried out by anyone possessed of even ordinary manual dexterity. It is easier than the podalic version advocated by some authorities. Rotation of the child in this manner on its long axis involves a decidedly smaller risk than performing an internal version or a Caesarean section—as recommended by the radical school.

I would like to acknowledge with thanks the assistance given me by Dr. Donald H. Williams for the drawing and also other help in the preparation of this paper.

NOTES ON THE INJECTION TREATMENT OF INTERNAL HAEMORRHOIDS

BY

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It is unnecessary at this stage to restate the advantages of this method of treatment of a very common and annoying disability. The advocates of operation for every case of piles do not seem to realize that for every patient who comes to the surgeon prepared to undergo an operation there are perhaps thirty suffering a minor degree of discomfort who are content to tinker with ointments prescribed by the nearest chemist and enthusiastically advertised in the lay press. This group of patients will never submit to operation unless their symptoms become aggravated, and it is precisely this group which responds in a gratifying manner to treatment by injection.

After five years' experience of this method I feel that there are certain refinements of technique which simplify handling of the case, and obviate most of the unpleasant sequels which sometimes occur after injection.

Choice and Preparation of the Solution.—I think that most surgeons interested in this branch of proctology will agree that, looked at from all angles, a 5 per cent. phenol-in-oil solution is the most satisfactory one to use. Sloughing and secondary haemorrhage, which admittedly occur, only occasionally seem to be inseparable from the use of a solution which involves direct injection into the pile; since the phenol in oil is injected above the pile-bearing area this complication is avoided. It is most important that the oily solution be prepared correctly. Several writers have observed the onset of influenza-like symptoms following an injection, and have attributed them to various factors, such as the use of sweet-almond oil, mixture of water with the injecting fluid, or the use of large quantities of the solution. Following on a series of baffling cases, and with the aid of Mr. Buxton, dispenser at the New Somerset Hospital, Capetown, I have succeeded in tracing the factor responsible. The symptoms are analogous to those of protein shock, and if the vegetable oil be boiled for an hour and then filtered, the phenol being added subsequently, this complication will not occur. In other words, the process of preparation should be similar to that of the oleum phosphoratum of the B.P. The choice of oil is immaterial. After a trial of peanut oil I have gone back to using sweet-almond oil as the diluent.

Spacing of Injections.—As a general rule, and unless there is special need for hurry, it is wisest to inject at weekly intervals. It is a little difficult to observe the result of an injection if the period between is shorter, and occasionally the fluid will leak through a puncture made only a few days previously. The total number of injections varies, of course, with the case, but it is advisable at the end of treatment to ask the patient to return after a month. At this stage one further injection will often consolidate the cure. In looking over my records and contrasting them with operation cases in order to reach a decision on the vexed question of recurrence, I have been impressed with the necessity of one or two additional injections after the piles are to all intents and appearances

cured. I think there can be no question that in bad cases the percentage of recurrence is higher than it is with operation, but—in my opinion this is an important point—these recurrences are still amenable to treatment by injection, and respond very favourably in the end. It is a significant fact that medical men, when they come as patients themselves, ask to be injected in preference to submitting to operation, despite their knowledge of the perceptibly higher recurrence rate.

After-pain.—The slight discomfort following an injection may become very real pain if too large a bleb is raised subjacent to the mucous membrane. This is to be expected if we consider that an increase of tension will give rise to pain in any part of the body. The temptation to hurry on the cure must be resisted if the treatment is to be truly ambulatory. Occasionally patients are seen for the first time in an attack of acutely inflamed piles. The angry red prolapsed piles and the oedematous anal skin present a very formidable sight. Rest in bed with alternate hot and cold applications, followed by injections when conditions have returned to normal, will give good results. Injections during the acute stage may give rise to endless trouble.

Coexistence of Fissure.—No injection should be attempted in the presence of a fissure. Even where operation is indicated for the fissure it is preferable in many cases not to remove the piles at the same time, but to leave them for injection subsequently.

Badly Prolapsed Haemorrhoids.—It is in this group that the highest percentage of recurrence takes place. The first few injections should be given more deeply than usual, an endeavour being made to glue the mucous membrane to the muscular coats. Usually the injection is made with a view to raising a definite bulge, yet avoiding whitish discoloration of the overlying mucous membrane. In prolapse cases the preliminary injections are made with the needle passed just deeply enough to avoid a bulge. Occasionally in injecting through an area stiffened by previous injections some of the solution will leak through. It is better to wait a day or two and begin lower down, giving the needle an upward inclination.

Skin Tags.—Cases are frequently seen where oedematous skin tags bear witness to previous attacks of inflammation or thrombosis of external piles. Injections cannot, of course, cure these, and if they interfere with cleanliness they must be excised. In the standard operation for piles insufficient removal of redundant skin will leave the patient with an annoying reminder of his previous trouble. We are apt in our dread of post-operative stricture to err on the side of caution, and it is in such cases that it is useful to mark out, previous to operation, with methylene-blue, the area of skin to be removed.

RECONDITIONING OF TONSILS BY THE DIATHERMY CURRENT

BY

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It is frequently noticed that infection of the tonsils—the first of a chain of lymphatic structures intimately associated with the digestive tract throughout its length—will be followed by a spread to the gall-bladder, appendix, colon, and locomotor system. In the past the only treatment has been surgical, of which the best is removal by dissection. From cases which have come under our notice we have definite clinical evidence that, as a rule, partial excision, scarification, and “firing” by the electro-cautery are more conducive to subsequent trouble than if the organ had been left intact. The ideal

aimed at is to put this open end of the lymphatic system into a healthy condition in order to resist attack by ever-present organisms. This should be done without damage and with the minimum loss of tissue, so that the final appearance is that of healthy lymphatic tissue, pink in colour, and situated between healthy, red pillars of muscle. The recognition of an unhealthy tonsil is achieved by inspection, supported by pathological examination, and, if necessary, by a "diagnostic treatment."

In our experience there would seem to be two main types of infected tonsils. There is the bright red tonsil, covered by dilated blood vessels, which has the appearance of acute inflammation and is associated with a similar, slight but definite, enlargement of the cervical glands. This type of tonsil nearly always, but not invariably, grows a haemolytic streptococcus. The second type is characterized by a rather pale, oedematous, or bluish appearance, with a definite bluish or dark red band on the anterior pillar adjacent to the tonsillar margin. The prevailing organism here is generally a *Streptococcus viridans*.

In the early years of this century American electro-therapists applied high-frequency currents to infected and enlarged tonsils. Their ideas were crystallized by Massey¹ in 1924, when he described the two methods known as "electro-desiccation" and "electro-coagulation." Electro-desiccation produces a superficial destruction of tonsils by means of an electrode inserted into the tonsillar tissue. Of recent years Dan McKenzie² and others in this country have described methods of electro-coagulation of tonsillar tissue, with a view to total extirpation of the gland.

While working on these lines a trial has been made by one of us of both the electro-desiccation and electro-coagulation methods. The latter was found to be less painful to the patients and productive of better clinical results. During the process of electro-coagulation it was, however, found that patients' symptoms were relieved and the tonsils rendered apparently healthy before total destruction of the gland took place. This result is only to be expected in view of Professor Hadfield's interesting experiments at the Royal Free Hospital, in which he demonstrated a zone of infiltration occurring round an area of coagulation caused by the diathermy current. It would appear that it is this local leucocytosis, artificially produced, which is the means by which infecting organisms are destroyed. The following technique was therefore evolved.

TECHNIQUE

The patient is seated in a straight-backed chair, a small swab of cotton-wool soaked in 10 per cent. solution of cocaine being held in a pair of Spencer Wells forceps and pressed against the surface of the tonsils. The operator, sitting opposite the patient, obtains a good view of the fauces with a headlamp and a glass spatula. A plate electrode about three inches square is attached to the leg of the patient—alternatively, he grasps a hand electrode from one lead of an ordinary diathermy machine. The other lead is connected to a pistol-grip holder, with trigger release carrying a detachable thin six-inch rod, in the end of which is screwed a steel needle electrode covered with insulating paint to within a quarter of an inch of the point. Having allowed the cocaine time to take effect, the diathermy machine is started, the glass spatula is inserted so as to depress the tongue, and also, if necessary, retract the anterior pillars of the fauces, and the needle is pressed lightly on the surface of the tonsil. Pressure on the trigger then completes the electrical circuit. A white spot gradually forms round the needle, which is then pressed slowly into the tonsils to the depth of an eighth of an inch. When the needle appears loose—usually after two or three seconds—the current is stopped by releasing the trigger, and the electrode is withdrawn. A similar treatment is then given to the other tonsil. This operation should cause little or no pain. Any subsequent soreness can be relieved by an aspirin gargle.

DETAILS OF TREATMENT

The average case requires six treatments at weekly intervals. If the first produces any marked local, general, or glandular reaction, or reaction in any part of the body in which there may be outlying colonies derived from the organisms in the tonsils, the second treatment should consist of a similar single application to each tonsil in a different area, so that the effects are distributed over the whole tonsil. If none of the above reactions occur, two applications are made to each tonsil. Similarly, the third treatment may be increased to three applications to each tonsil. It has, as a rule, been found inadvisable to give more than this number of applications. Bacteriological examinations have been made by one of us from these tonsils. A growth of streptococci, with other organisms, is found in all cases before treatment, and a direct smear invariably shows the presence of pus cells in greater or lesser quantities. From these cultural examinations it has been difficult to draw conclusions, because streptococci and other organisms can be grown from practically all tonsils, whether healthy or unhealthy, and profusion of growth is no indication of the virulence of an organism.

After considerable experience it has been found that the presence of streptococci grown from a swab is of less importance than the direct examination of a smear. A smear from an unhealthy tonsil will show epithelial cells, many pus cells, and a large number of organisms. A swab from a healthy tonsil shows epithelial cells, very occasional pus cells (or none at all), with few organisms. The presence of pus cells denotes active inflammatory processes in being. It also means that the alimentary tract is being subjected to a constant stream of dead and toxic matter. After treatment, cultures show a less profuse growth and a diminution or absence of pus, and it is often found that a tonsil which before treatment harboured a haemolytic or *viridans* streptococcus has ceased to do so, or may grow a non-haemolytic streptococcus.

When the effect of the cocaine has worn off the patient may experience some slight soreness for a short time. After about twelve hours the local reaction begins, characterized by some soreness and reddening of the tonsil round the coagulated area. If the organisms present are very virulent there may also be a general malaise, with, possibly, slight fever and some enlargement of the other lymphatic glands in the immediate region of the tonsil. It would appear that part of the general reaction is due to an inoculation of the body with toxins from the organisms present. For this reason treatments must be carefully regulated and spaced in order to build up the body's resistance to these organisms and to eradicate outlying colonies of infection. We have noticed about this time that manifestations of outlying infections may be increased, such as popping in the ears from a Eustachian catarrh, increase in a conjunctivitis or gingivitis of tonsillar origin, indigestion from cholecystitis, with increased tenderness of the gall-bladder, diarrhoea from a colitis, and increased pain from any infected structures of the locomotor system or peripheral nervous system, such as lumbago or brachial neuritis. These local and general reactions subside in from one to four days, the duration becoming shorter and the reactions less severe with subsequent treatments. In about seven days the white coagulated patch is sloughed, leaving a healthy area which is covered with epithelium, and which later shows no visible or palpable cicatrization. It is generally found that where a *Streptococcus viridans* has been cultured reactions are more severe, and the technique is modified in consequence.

RESULTS OBTAINED

Table I shows the results of treatment of patients of the hospital class and of those in comfortable circumstances. The total number of patients was ninety-three, some of

whom showed lesions of more than one system, as indicated in the third column. The hospital-class patients were treated at the British Red Cross Society's Clinic for Rheumatism from among those under Dr. C. B. Heald. Their disabilities were rheumatic manifestations of various kinds.

TABLE I.—B.R.C.S. (a) and Private Patients (b)

Number of Patients	Average Number of Treatments	Systems Affected	Systems Cured	Systems Improved	Systems <i>in statu quo</i>	Systems Worse
(a) 32	6.3	32	15	14	2	1
(b) 61	5.2	101	51	48	2	—
93	5.7	133	66	62	4	1

The classification of patients under the heading of "cured" and "improved" is, of course, arbitrary. The method employed was that when the tonsils appeared healthy clinically and pathologically the patient's condition was assessed, and where symptoms were completely relieved the result was described as "cured." Where symptoms were alleviated only, the condition was noted as "improved." The private patients were treated for conditions of the upper air passages, such as chronic catarrh of the nasal passages, larynx, pharynx, and Eustachian tubes, frequent colds, and sore throats. There were also patients treated for rheumatic conditions and disabilities of the digestive tract, such as flatulent indigestion, cholecystitis, and colitis—probably secondary infections from the tonsils, either from swallowing pus or by infection through the lymphatic channels.

Table II illustrates the results of tonsil treatment on affections of the locomotor alimentary systems and upper air passages.

TABLE II.—Private Patients Only

System Infected	Cured	Improved	<i>In statu quo</i>	Worse
Locomotor ...	10	18	—	—
Alimentary ...	4	11	1	—
Upper air passages ...	24	7	1	—
Other systems ...	12	13	—	—

In addition to the cases included in the above tables, a small number of cases of neuritis, persistent headaches, asthma, bronchitis, gingivitis, toxic myocarditis, and conjunctivitis associated with obviously unhealthy tonsils were treated by electro-coagulation with gratifying results, the proportion of those cured to those who showed improvement being 12 to 13. A remarkable feature of the records is the fact that forty-six out of the sixty-one private patients volunteered the information that as treatment proceeded they had more energy, or were less tired.

Table III shows the comparative results of treatment of rheumatism of the periarticular and articular type on the one hand and of the muscular type on the other.

TABLE III.—B.R.C.S. Patients Only

Type of Rheumatism	Number of Patients	Average Number of Treatments	Cured	Improved	<i>In statu quo</i>	Worse
Periarticular and articular	17	6.0	5	9	2	1
Muscular ...	15	7.1	10	5	—	—

From this it is evident that the results of treatment of the muscular type are better than in the type affecting the joints. It is curious that the successful treatment of the muscular type of case was more prolonged than that

of the less amenable joint type. A possible explanation is that secondary foci of infection developed in the articular cases when these were old-standing, causing more or less permanent injury to the joint.

A small number of B.R.C.S. patients were given electro-coagulation treatment only, and Table IV shows the results.

TABLE IV.—B.R.C.S. Patients having no other Treatment

Number of Patients	Average Number of Treatments	Cured	Improved	<i>In statu quo</i>
12	6.5	10	2	—

These cases were of fairly recent origin, and, therefore, presumably more responsive to treatment. This would appear to tally with our explanation with regard to joint cases.

This treatment was started eighteen months ago, and therefore is to be regarded as being still in an experimental stage. For the same reason the number of complete cases is too small to be of great statistical value, but we consider that this method of therapy has a distinctly promising future.

SUMMARY

The treatment described attempts to relieve or cure certain disabilities caused by the broadcasting of poisons from unhealthy tonsils.

It is of advantage in that a considerable amount of healthy tonsil remains.

No damage and little discomfort attends the process, and the patient can follow his ordinary occupation and habits.

Patients of any age can be treated, the actual range being from 3 to 74 years.

Complications such as secondary haemorrhage have never occurred.

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Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

MUMPS AND APPENDICITIS

The following case may be of interest in view of the suggested rarity of this combination of diseases.

On December 12th, 1932, a boy of 11 years was taken ill with bilateral swelling of the parotid submaxillary glands. There was pain on swallowing and on opening the mouth, no abdominal pain, but frequent vomiting. There was mumps in the village, and the boy was thought to have contracted the disease. Two or three days earlier he started vomiting, and I was asked to see him. His temperature was 101° F., pulse 100. The abdomen moved on respiration; there was no pain, tenderness, or rigidity. The vomit was bile-stained; the bowels were constipated, but opened with medicine. The case was diagnosed as a severe attack of mumps, and the patient was put to bed. On the following days the boy was fairly comfortable, although he was still vomiting and the temperature and pulse were still raised. As appendicitis was suspected he was seen by another doctor on December 14th, but there were still no physical signs, and we decided to await development.

On December 16th pain, referred to the umbilicus, was complained of for the first time, and a definite swelling could now be felt in the right iliac fossa. Temperature 101.8° F., pulse 106. The boy looked very well, and the parotid swelling was beginning to subside, although it was still present. He was removed to hospital and operated on at once. A perforated swollen appendix was found and removed,