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# ELECTRO-MASSAGE.

BY

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**NEW YORK.**



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[Reprint from the *Medico-Chirurgical Quarterly*.]

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THIS article has been written for a twofold purpose: first, to bring to the notice of the profession a new mode of electrical treatment, that appears to be well worth their consideration: and second, to emancipate a large part of the practice of electro-therapy from the technical difficulties which surround it.

In ordinary every-day practice, a physician sees his patient, makes his diagnosis, and prescribes what seems to him the appropriate remedy; gives the patient directions how he wishes the remedy administered, and the physician leaves the patient with the full conviction that his instructions will be carried out to the very letter, and they *are* so carried out, because it requires no special skill to do so. With the practice of electro-therapy it is different. Here the physician has not only to make his examination, his diagnosis, and prescription; but to administer his prescription himself, and repeat the dose every-time it is necessary. Or if in exceptional instances, he entrusts the administration of the remedy to unskilled hands, after a hurried imperfect instruction as to its use; he runs the risk of his directions being imperfectly carried out, greatly to the detriment of the patient, and to his own discredit.

It often struck me what a boon it would be to humanity if such a potent remedy as electricity could be prescribed as drugs are, *i. e.*, necessitating only a few simple directions to the patient that required so little skill in being



carried out, that the prescriber would be assured they would be accurately followed.

This ideal has not yet been realized, I do not say that it ever will be, but by attention to the following pages, the reader will see, that by the use of a very simple instrument, a large part of the vast field of electro-therapy has been opened to the busy general practitioner, who, in a large number of cases, can train an intelligent nurse to carry out his designs, and even in a few instances can entrust the patient himself with the details of treatment, which has been shorn of many of the difficulties which have surrounded it.

Now, I wish my standpoint in this matter to be distinctly understood. I do not for a moment intimate that the whole domain of electro-therapy is to be entrusted to the charge of a patient however intelligent, to a nurse however well trained, or even to a general practitioner be he ever so skillful and learned, unless he has specially devoted himself to the practice of the branch of medicine under consideration. No, indeed, far from it. The larger part of the practice of electro-therapeutics must be of necessity left in the hands of men who devote themselves exclusively to it.

What I mean to convey is, that quite a *large portion* of electrical treatment, that hitherto could only be carried out by specialists, by the use of elaborate apparatus, can by the proper use of a new mode of treatment, by a contrivance to be presently described, be entrusted to the hands of those who are not so skilled.

I believe I can claim entire originality for the mode of treatment presently to be described, as well as for the little machine which is below depicted.

As, perhaps, a detail of the course of thought which led to the perfection of this mode of treatment (which promises so much in the cure of disease, and opens up new fields in electro-therapeutics,) may be of interest to some of my readers, I will give a short history of the subject. It com-

menced in this wise:—Having had constantly under my care, cases in which I was obliged to call in the services of a manipulator, to rub, knead and pound, flex and extend the joints, etc., (treatment that I value very highly,) and, a short time after this procedure was accomplished, having to put the patient to the trouble and annoyance of an electrical treatment, and to repeat these processes day after day: it occurred to me that it would decidedly be of less discomfort to the patient, if these procedures could be combined, so that one short seance would answer the purpose of two long ones, and so the services of one expert could be dispensed with. Only those who have employed electricity and massage for the same patient can appreciate what an immense advantage this point gained would be.

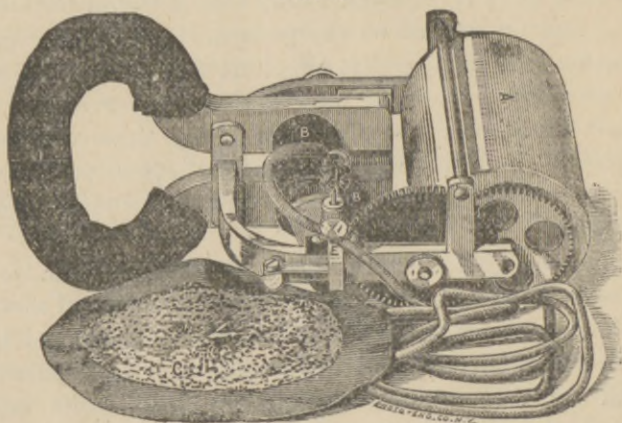
On one occasion, while watching the manipulator at his work, it occurred to me, that if the mechanical motion used in rubbing the patient, could be transformed into an electrical current, and the current as it was generated could be transmitted through the part while being rubbed, it would fulfil the requirements. So I set to work to devise a machine for the purpose, and this apparatus, the result of my labors, not only answers the purpose intended, but a number of other purposes as well. Before describing its many uses, it may be well to give a description of the instrument, which is represented in the wood-cut Fig. 1:—

It consists of a metallic roller, *A*, covered with chamois leather or other suitable material; an electro-magnet, *BB*; a permanent magnet, *D*, set in a strong frame, which holds the instrument together. The roller *A*, besides acting as the driving-wheel of the machine, is so arranged that it also acts as one of the electrodes, wherewith the current is transmitted, and is so connected by gear with the electro-magnet *BB*, as to cause the latter to revolve its poles opposite those of the permanent magnet *D*, which latter forms the handle of the instrument. Each revolu-



tion of the roller, *A*, producing twenty-five revolutions of the electro-magnet, *BB*, which is magnetized and demagnetized at each revolution, and so a current of electricity is induced, which is ample in strength for all purposes for which it is intended. The break-piece, *E*, regulates the interruptions.

FIG. 1.



The circuit is completed by connecting any required electrode by the binding post at *E*, the roller, *A*, acting as the other electrode: both are brought into contact with the surface of the body of the patient; and as the roller is moved about over the surface, the current is established and transmitted through the part over which the roller is caused to revolve.

Here we have a machine which includes in itself an electric generator, a rubber, kneader, a manipulator, and a set of electrodes, all in one. The instrument is perfectly simple, and is not liable to get out of order. Any person of ordinary intelligence can be taught to use it, under the direction of the attending physician. It is, moreover, extremely portable, being quite capable of being carried in an overcoat pocket. When I first devised the instrument, I only intended that it should serve the purpose of



administering the induced current, and at the same time act as a manipulator; but I find in practice that it has far exceeded my expectations, inasmuch as by its use we get greater tonic effects than from the employment of both faradism and massage separately. It fulfils most of the requirements of the induction current in general practice and every-day cases, as will be seen by referring to the directions for using, and the cases on which it was used, given below. As the current is generated by motion, no acids or liquids of any kind are necessary. The instrument is at all times ready for use, a matter that will be appreciated by all who use electricity. As already mentioned, I intended by its use to save the patient the services of one expert, but I find that I save two—to a great extent, at least—as the employment of the machine does not require the hands of an expert electro-therapist. His services are only necessary to prescribe its use, and instruct the manipulator in carrying out the details of the treatment of any given case. I have a number of nurses and others trained as manipulators, whom I employ in my practice to carry out my intentions as regards the treatment.

Regarding the method of using electro-massage, we have to take into consideration the requirements of any given case—that is to say, whether general treatment, involving the whole surface of the body, local treatment of a particular part, deep kneading, or superficial rubbing, is to be used; also, whether the current is to be labile or stable (stable currents can be used with this instrument, as will be seen by and by), I will try and be as explicit as possible.

**Nervous Exhaustion.**—In treating this disease by electro-massage, I place the rubber backed electrode, *C*, on the sacrum or gluteal region, (the patient lying on it), and commence the operation by applying the roller to one of the feet. It is first to be gently moved over the sole (avoiding tickling), afterwards more vigorously, leaning more and

more heavily, and rolling the machine faster as the treatment progresses. The speed of the roller regulates not only the strength of the current, but also the amount of the passive exercise. The calves of the legs are next proceeded with in like manner; then the thighs, back and front; the ankles, knees and tibiæ, should be avoided, as the action of the current on the exposed bones is disagreeable, as well as useless. When the application to the lower extremities is concluded, the part should be covered with a blanket, and the *electro-masseur* should next proceed to act on the abdomen, commencing slowly and gently, and in first treatments especially, avoiding all tender spots. The force is gradually increased until the pressure requisite for deep kneading is reached, and the skin made thoroughly red. Then the electrode on the sacrum may be moved to the dorsal region, the abdomen covered, and the chest, arms, and upper parts made bare: these latter parts are to be gone over in like manner, avoiding the clavicles and sternum. When these parts have been thoroughly acted upon, the arms being treated in the same manner as that directed for the legs, the patient may be turned on the face, and the posterior parts treated; the flat electrode being placed on the pit of the stomach. First treatments should be light and short, and each treatment made longer, until an hour is consumed in the operation, or until the skin assumes a decided pink color. The immediate effect of the treatment on these nervous patients, is that of a calmative; they seem infinitely relieved of something; what—they seem unable to describe. They often want to sleep, which I always try to encourage as much as possible. It seems almost needless to add, that the chamois skin covering the roller, as well as the sponge electrode, should be kept constantly moistened with warm water during the seance. This treatment may also be used in cases of *chlorosis*, in conjunction with galvanization of the sympathetic, *which latter, of course, should always be administered by an expert, and should never be entrusted to*



*unprofessional hands on any account whatever*—for obvious reasons.

General electro-massage is also useful in *chorea*, in conjunction with galvanization of the brain and spinal cord; also in *anæmia*, and in any disease where the object is to stimulate nutrition of tissue. The method of procedure is about the same as that already described, due allowance, of course, being made for special idiosyncrasies of any given patient. It ought to be of service in *obesity*, as well as its opposite, in virtue of its action in promoting healthy nutrition. Local treatments require more detailed directions.

**Muscular Rheumatism.**—Electro-massage is a remedy approached by no other in this affection. The rubber-backed electrode being placed upon a part adjoining the seat of pain, the roller well moistened is made to travel rapidly over the affected tissues, and those surrounding; commencing by using superficial massage, and following by deep kneading. I have had very brilliant results in old standing cases of lumbago, and, rheumatic affections in other parts of the body, by this mode of treatment. Long treatment should be the rule. By long treatments, I mean relatively long; for while three quarters of an hour is a short time for general treatment, twenty minutes is long for a purely local one. Long treatments and frequent repetitions: at least once daily.

**Chronic Articular Rheumatism** although not giving the brilliant results that muscular rheumatism does, yields well to electro-massage. In treating this affection, a good plan is, to wrap the affected joint with a wet bandage, and over this to place a layer of tin foil, and the electrode being removed from the conducting cord, the end of the cord is made fast to the tin foil, so that this latter will be in electrical connection with the machine. The foil is then secured in its place with a few turns of a dry bandage. The parts surrounding the affected joint are then manipulated with the roller of the machine and the ac-

tion of the current kept up for fifteen or twenty minutes for each joint. I usually have these cases treated at first every day, and afterwards at more rare intervals.

**Chronic Constipation.**—There are old standing cases of this affection, occurring in persons who all their lives have been dosed with cathartics, and whose bowels seldom or never act without either a dose of purgative medicine, or an enema. In such cases the persistent use of electro-massage for a few weeks, will seldom fail to restore healthy peristaltic action, and a normal condition. The treatment may be given in one of two ways:

1. The patient being placed on the back, in a comfortable easy position, the legs and thighs being slightly flexed; the rubber backed electrode is brought into contact with the lumbar region: then the abdomen being freely bared, the roller is made to travel over the surface; the operator bearing more and more pressure on the part, until thorough deep kneading is arrived at, which after a short time is tolerated without any resistance on the part of the abdominal muscles.

2. The flat electrode being removed, a rectal electrode is attached in its place, the bulb of which should be inserted well within the anus, then the abdomen is kneaded with the roller as in the first method. At first I recommend daily seances, afterwards treatments at more rare intervals, as improvement progresses. Having had considerable experience with this class of cases, I feel that I have good reason to be thoroughly satisfied with the result obtained by *electro-massage*.

**Atonic Dyspepsia.**—There are cases of this form of disease, of *gastric catarrh*, *gastralgia*, and other stomach affections, that do not yield well to drug remedies; but are greatly benefited, and often cured, by faradization of the stomach. Electro-massage I find to be much superior to the ordinary method of using faradization.

The flat electrode being placed on the dorsal region the stomach is brought under the action of the roller



electrode, the patient of course being in the supine position, as recommended for the treatment of chronic constipation. If there be any tenderness of the stomach, the pressure exerted by the roller should be a minimum during the first few seances; after which, the treatment is well tolerated, and is even pleasant. Two hours after a meal seems to be the best time for the application, which needs not be very long, say ten or fifteen minutes. As regards the repetition of the dose, I can say but little, each case requiring to be individualized.

**Paralysis.**—Any case of paralysis in which faradism and massage are indicated, will be more quickly improved by electro-massage, than by the former remedies administered separately. The indications for the use of the faradic current, I have elsewhere \* given and therefore need not enter into the matter in this article. The methods in which electro-massage may be used in this affection are numerous:—

It may be used by placing a small electrode on the motor point of a muscle, at the same time kneading the muscle with the roller; and when one muscle has been sufficiently acted upon, proceeding to the next and operating in like manner; and so on, until the whole of the affected part has been brought under the influence of the current, and been thoroughly manipulated. It may also be used by, placing the fiat electrode on the spine, about the location of the origin of the nerves supplying the diseased part, and kneading and rolling the affected muscles with the roller electrode or, by placing the flat electrode in a vessel containing water sufficient for a foot bath; and while the patient keeps his feet immersed in the water, the masseur rolls the affected muscles with the electrode until they are thoroughly electrized. A variety of other methods will suggest themselves as specially suit-

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\* Text-book of Electro-therapeutics, page 162, also Amer. Journ. of Electrology, vol. 1, page 120.

able to individual cases. These just given, however, are the principal methods that I have used. It is impossible to be more explicit in this matter, without opening up the whole subject of paralysis and entering into the various causes of the affection as well as its pathology, which would necessitate greatly over-stepping the limits of this paper.

**Neuralgia.**—Under certain circumstances, electro-massage may be of service in the treatment of this disease, *e. g.*, when the nerve is deep seated; when the points of Valleix are not *excessively* tender to touch; and when the galvanic current produces no amelioration. In such cases the flat electrode had best be placed on the affected nerve, on the seat of greatest pain; while the action of the roller electrode is brought to bear on the tissues in close proximity. The flat electrode may be moved along the nerve during the seance until the whole trunk of the nerve and the tissues through which its ramifications are distributed have been brought under the influence of the current. This is especially necessary if there be more than one painful spot. The movements of the roller should be slow, so as to generate only the mildest current possible. Especial care should be directed to this point, as too strong a current may greatly aggravate the pain, which the treatment properly carried out will mitigate.

**Headaches.**—Some cases of periodic sick headache are greatly relieved by the treatment under consideration, others are not. What symptoms indicate its employment, and what contra-indicate it, I am unable to state. It is a remedy worth trying, however, in any case. It may be employed locally or generally. When locally applied the moistened flat electrode is to be applied to the head, at the seat of pain, and one part after another brought under its influence; while the roller travels over the back of the neck, and upper part of the spine. The operation may be modified by using two flat elec-



trodes attached to a bifurcated cord conductor: one of these electrodes may be placed on each side of the affected organ, while the roller is made to revolve over the skin of an indifferent part, for the sake of completing the circuit. When general electro-massage is the chosen remedy, it may be carried out by the method described for the treatment of nervous exhaustion.

Other forms of headache are also cured by this treatment; and in cases of recurring headaches the treatment ought to be employed both during the attack, for the sake of its immediate effect in relieving pain; and also frequently in the interval between the paroxysms, with a view to its action in producing a healthy nerve activity, and improving nutrition; thereby lessening the liability to recurrence of the attacks.

**Hip Disease.**—To relieve the muscular contraction and pain occurring in this affection, electro-massage will be found a valuable ally. While the contracted muscles are being rolled and kneaded with the instrument, firm contact of the flat electrode to an adjacent part is secured. The treatment at the commencement of a seance should be very gentle, and afterwards, as a tolerance is manifested, more force can be employed; but here, as elsewhere, *no pain should be produced by the operation*. Only very short seances are necessary, but they should be frequently repeated until the desired result is obtained.

**Enuresis Nocturna.**—Electricity is often successful in curing this troublesome disease of children; electro-massage can be made to answer just as well, by applying the sponge to the perinæum, and rolling the abdomen over the region of the bladder, bringing the roller well down to the pubis with each stroke of the instrument. The only advantage that electro-massage possesses over ordinary faradization in the treatment of enuresis, is, that the mother of the child can be taught how to use the remedy, which secures the proper repetition and regularity of the applications, a matter of considerable importance.

**Impotence.**—When this condition does not depend on grave central lesions, and more particularly when it is only partial, manifested by incomplete erections, diminished desire, premature ejaculations, etc., electro-massage may be employed with a certain expectation of benefit. The patient may be taught to use the treatment himself, by applying the flat electrode to the perinæum, scrotum and penis successively, and using massage with the roller over the lower spine. When impotence is the result of prolonged spermatorrhœa or urethral disease, it is only loss of time trying electro-massage. Such cases require galvanic treatment at the hands of the specialist.

**Uterine Diseases.**—In amenorrhœa, depending on chlorosis or other idiopathic cause, electro-massage is, to my mind, a better remedy than faradization. It may be used after the method given for treating the abdomen. The patient herself, unless prostrated by weakness, can use the remedy after a lesson or two.

In dysmenorrhœa it may be used to relieve the pain, and it can be employed as a substitute for the induced current, in any case where this latter is indicated.

**Displacements.**—I have no doubt electro-massage might be of great service in such conditions as a substitute for the induced current employed alone; that it possesses any advantages. I am unable to state, not yet having employed it.

**Post-Partum Hemorrhage.**—Electro-massage is a most effectual means for controlling post-partum flooding.

The physician who carries one of those little automatic induction instruments has, at all times, in his possession a ready method for exciting uterine contractions.

When it becomes evident, in any case after delivery, that the uterus has not contracted firmly and that there is more flowing than normal, an electrode with a metallic ball on the end of a long insulated stem, should be attached to the machine in place of the flat electrode, and passed into the uterus.



The abdomen is then kneaded according to the rule before given, until the uterus firmly contracts, which it will do almost immediately. The treatment should then be discontinued, but the electrode left *in situ*, lest the hæmorrhage should re-commence, in which case the current should again be brought into action. In case the medical attendant is not provided with such an electrode, a spoon may be made to do good service.

After being attached in place of the flat electrode, the handle of the spoon may be wrapped with a piece of muslin, so as not to act on the vagina, and the bowl inserted well within the uterus.

**Inertia of the Uterus.**—If, from any cause during labor, the pains cease, or become insufficient, the uterus can be stimulated by electro-massage. The flat electrode may be applied on the abdomen, and held there by assistant, while the physician attends to rolling the lumbar region with the machine: imitating nature as nearly as possible, by allowing an interval of rest after each contraction produced by the current.

**A Retained Placenta.**—The treatment just recommended will often help a physician and patient out of a difficulty of this kind.

**For the Resuscitation of New-Born Infants** in whom the breathing powers are not established, electro-massage suggests itself as a more than likely remedy.

We know what faradization will do in such cases, but a child may die while a physician is getting an induction coil ready, even if he happens to have one with him, which is not probable. The instrument under consideration, on account of its extreme portability, can be at all times carried by the physician to a case of labor; and being always ready for action, there needs be no delay in employing the treatment, which may be carried out in the following manner:—The child being placed in a convenient position, the flat electrode is placed on the spine, between the shoulders, while the roller is made to do duty on the

chest walls, especially in the region of the diaphragm, so as to make the muscles of respiration contract, while at the same time artificial respiration is kept up by an assistant.

*Stable Currents.*—If in any case a stable current should be deemed requisite, a second flat electrode may be used; the tag from which should be inserted in the hole on the right side of the frame of the machine. Both electrodes now being applied to the part through which the current is to be transmitted, the roller is made to travel over one of them without its touching the skin of the patient. Cases requiring this treatment, however, are exceptional.

I do not for a moment pretend that this is an exhaustive essay on the subject of electro-massage; cases not alluded to in this paper occur in daily practice, in which the treatment will suggest itself as being appropriate; and I hope that the few hints given in this article will be thought worthy of consideration by the profession.

N.B.—Having, for some time, noticed that certain manufacturers of electrical instruments make and sell batteries for the general public, together with instruction books which pretend to give directions how (by their use) to cure all the diseases that human flesh is heir to, in the most modern and approved fashion; and fearing that my invention might possibly be degraded into a quack nostrum by such unscrupulous venders, if not in some way kept out of their hands, I made up my mind that the only way to protect it was to patent it. This I have done; and I mean furthermore to take care that no one outside the profession shall obtain an instrument except through the prescription of a physician, and so keep in the hands of the legitimate profession, this, what I have found to be a valuable mode of treatment. I am well aware that patenting an instrument for medical use is a violation of the *letter* of the Code of Ethics, but I think in this instance not of the spirit, for the reason given. It was necessary in this case to choose between two evils, violating the Code, and allowing a valuable remedy to fall into the hands of impostors or quacks. I chose what seemed to me to be the least, and feel justified in so doing, as I am certain my conferees will allow. I will be happy to answer the inquiries of any physician desiring to test this method of treatment. The machine can be obtained from any of the electrical instrument firms whose advertisements appear in the *Medico-Chirurgical Quarterly*, who will sell it subject to the restrictions named.





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