

zinc-carbon cell will operate the vibrator for several hours. When unusually strong currents are required as for instance from 250 to 1000 milliamperes this is the battery I would use, although I believe that in treating uterine fibroids Apostoli uses the large Leclanché cells.

There are several forms of portable zinc carbon batteries in the market. They all belong to the variety known as the "plunge battery," the plates being immersed or plunged in the exciting solution to set the battery in action. My preference is in favor of a recent modification of the McIntosh battery. It is simple in construction, easily managed, and does not readily get out of order. This is the battery, *par excellence*, for electrolysis, and may be used for all other purposes as well. For purely neurological work the Leclanché or the chloride of silver battery is rather more convenient.

Having thus briefly described the new electrotherapeutic apparatus I will conclude with a few words regarding the dosage of electricity, and I do not know that I can introduce the subject better than by referring to cases now under treatment.

*Case 1. Torticollis.*—Dr. Oldright's patient, a little girl aged 8. Electrical treatment. Central galvanization galvanization of contracted muscles and faradization of the weak antagonistic muscles. From 5 to 6 milliamperes are applied to each cervical sympathetic, 8 to 10 to the head, and 10 to 12 to the nape of the neck—with the positive pole—the negative being applied by means of a large electrode to the sternum. 10 to 12 milliamperes are passed through the upper part of the spine and about the same strength is passed through the contracted muscles. The application to each part lasts about three minutes, and the current is gradually increased from zero to the maximum and as gradually decreased, by means of the rheostat, very great care being taken that there shall be no interruption to the current, especially when at the maximum. In galvanizing the cervical sympathetic nerves, it is usual to make the application by means of a narrow electrode pressed against the spine in front of the sterno-mastoid muscle. In the case of a child, I prefer using the ends of the fingers of one hand, the other hand being made to grasp the sponge electrode connected with the positive pole of the battery, and the current passed through my own body. In this case an assistant works the rheostat, while I watch the milliamperé meter.

*Case 2 Hemiplegia*—Dr. Burns, patient. In this case the patient has nearly recovered from paralysis of the left side, leaving however, secondary contraction of the arm and forearm. The electrical treatment is the galvanic current to the flexors, and the faradic current to the extensors. From 15 to 20 milliamperes are applied continuously to each set of contracted muscles, for about five minutes at a time, three times a week.

*Case 3. Sciatica.*—Same patient but sciatica on the right side. Treatment, twenty-five milliamperes for five minutes, negative pole on sacrum and positive on popliteal space. In chronic cases, 30 or 40 milliamperes may be used and it may be repeated twice a day.

*Case 4. Locomotor Ataxia.*—Dr. Mewburn's patient. The electrical treatment is the application of the galvanic current to the spine and the faradic current by means of the dry electric brush to the back and limbs. 12 or 14 milliamperes are applied to the spine for five minutes every second day and the electric brush (faradic current) is applied at home daily.

*Case 5. Opacities in Vitreous.*—Dr. Fisher's patient, Warton. Electrical treatment: 8 milliamperes daily for five minutes; the positive electrode being applied to the eyes and the negative applied either to the hand or cheek.

*Case 6. Parenchymatous Inflammation of Cornea.*—Electrical treatment 10 to 12 milliamperes for ten minutes with negative pole, the positive being applied either to the cheek or to the hand well wetted.

*Case 7. Atrophy of Optic Nerves.*—A young woman. Electrical treatment 6 milliamperes for five minutes to each eye (positive pole) with the negative pole either to the nape of the neck or to the hand. In the report of these seven cases I have given the electric treatment only. It is to be understood of course that this was not the only treatment. With the exception of the case of sciatica, the electrical treatment was an adjunct only to other treatment. The cases are reported here simply with the object stated, namely to give some idea of the dosage of electricity.

I may add that whatever battery is used I put the entire number of cells in circuit (usually about 30) and I modify the strength of the current by the rheostat. My arrangement is as follows: The rheophore